Report 1096-02-79-CR

Pilot Project to Demonstrate the Feasibility of Monetizing Nonpecuniary Factors for Consideration in the Pay Comparability Process

FINAL REPORT

By:

Oscar Harrison
Linda Pappas
Jerry Allen
Roger Johnson
Dr. Greg Duncan
Dr. Warren Rogers

January 1980

OPERATIONS ANALYSIS GROUP

GENERAL RESEARCH CORPORATION

A SUBSIDIARY OF FLOW GENERAL INC.

7655 Old Springhouse Road, McLean, Virginia 22102

Prepared For:

Mr. Neil Singer
Office of the Assistant Secretary of Defense (MRA&L)
Room 3E787, The Pentagon
Washington, D.C. 20301

Contract No. MDA903-79-C-0208

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This pilot project, building upon previous work under this contract, develops and pretests a comprehensive research design and analysis plan to be used in surveying the private sector to demonstrate the feasibility of monetizing selected nonpecuniary factors.

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SECTION 1

INTRODUCTION

BACKGROUND

This report documents a pilot project for a study to show the feasibility of monetizing selected nonpecuniary factors associated with Federal employment for consideration in the pay comparability process.

Federal-private sector pay comparability, as the approach to adjusting General Schedule pay rates, resulted from the Salary Reform Act of 1962. The mechanism for implementing this process was established with the Pay Comparability Act of 1970 and was further endorsed in 1976 by the President's Panel on Federal Compensation (Rockefeller Commission).

Although a comparison method exists for determining Federal pay, there has been reason to suspect that the comparability principle, as currently employed, is inadequate. The changing work ethic (philosophy of work) in America suggests that a pay comparability approach established 5 or 10 years ago requires reexamination today. Specifically, the comparability concept may still be valid, but the "elements" measured to establish comparability may change over time. Today's increased emphasis on noncash benefits and nonpecuniary factors suggests that these deserve consideration in the comparability process. This fact received official recognition when the President on 6 June 1979 sent to Congress proposed new legislation requiring the Federal Government to measure its fringe benefits against those in private industry in computing "total compensation comparability." The final step remaining is to identify nonpecuniary factors that may be worthy of consideration in the comparability process.

An initial step in this direction was taken by General Research Corporation (GRC) for ASD (MRA&L) under Contract No. MDA903-79-C-0208, GRC:

- Conducted a thorough review to identify which nonpecuniary factors have been addressed in the literature.

- Charted the development of the use of nonpecuniary factors as work rewards.
- Identified the major and minor nonpecuniary factors, the former to provide the basis for further research.

GRC's final report under this contract concluded that:

- Nonpecuniary factors have become increasingly important to both employees and unions in recent years as part of a reward (compensation) system.
- Attempts to place a monetary value on nonpecuniary factors have been very limited, and none identified has gone beyond the research stage.
- It is feasible to devise a method of estimating the monetary value of selected nonpecuniary factors.

Since no readily applicable approach to monetizing the nonpecuniary factors associated with Federal employment could be identified, and in the light of the increasing importance of these factors to management, employees, and unions, the pilot project outlined herein was initiated.

OBJECTIVE

The immediate objective of this pilot project was to conduct a study, based on the work performed under Contract No. MDA903-79-C-0208, leading to:

- The development of a comprehensive survey research design, including a sampling plan and interview guides.
- The development of a comprehensive survey research analysis plan.
- A test of the preceding by a survey pretest.
- A final report detailing study results and recommendations regarding future research.

ORGANIZATION OF THE REPORT

The sections which follow will present the results of the pilot project. Section 2 describes the survey research design which was developed. Section 3 describes the analysis plan for the survey. Section 4 reports the results of the pretest, and the conclusions and recommendations are presented in Section 5. Detailed supporting data are contained in Appendixes A-G.

SECTION 2

THE SURVEY RESEARCH DESIGN

METHODOLOGY

The methodology to be used in conducting the proposed survey is to collect information from the private sector by onsite surveys, combining observations and interviews which will (1) identify selected nonpecuniary factors associated with comparable positions in the Federal Government in the same salary range and (2) provide a basis for estimating the monetary value of nonpecuniary factors using statistical analysis techniques.

UNITS OF ANALYSIS

The units of analysis for this survey will be employees performing work comparable to that performed in the Federal Government at salary ranges comparable to those paid by the Federal Government. To insure comparability with the Federal Government, employees surveyed will be engaged in the occupations covered by the Bureau of Labor Statistics National Survey of Professional, Administrative, Technical, and Clerical Pay (PATC). These surveys are used as the basis for setting Federal white-collar salaries under the provisions of the Federal Pay Comparability Act of 1970. The occupations covered are:

- Professional, administrative, and technical support
  - Accountants
  - Auditors
  - Chief accountants
  - Attorneys
  - Buyers
  - Job analysts
  - Directors of personnel
  - Chemists
  - Engineers
  - Engineering technicians
  - Drafters
  - Computer operators

- Clerical
  - Accounting clerks
  - File clerks
  - Key entry operators
  - Messengers
  - Secretaries
  - Stenographers
  - Typists

BASIC SURVEY DESIGN

A cross-sectional design will be used. In a cross-sectional survey, data are collected at one point in time from a sample selected to describe some larger population at that time. Such a survey can be used not only for purposes of making descriptive assertions about some population, but also for the determination of relationships between variables at the time of the study.

In this study the emphasis in the collection of data will be on the environment in which the employee works to identify the nonpecuniary factors or benefits provided by that work environment. The basic survey design can, therefore, be described more accurately as a contextual study: an examination of the employee in the context of his work environment. A contextual study is a typical modification of the basic cross-sectional design.

SAMPLING PLAN

The population for this study consists of professional, administrative, technical, and clerical workers occupying positions identified above in establishments in the United States, except Alaska and Hawaii, employing a minimum of 100-250 employees depending on the type of industry. This is the same population covered by the PATC surveys. The occupational definitions contained in Appendix C, Bureau of Labor Statistics Bulletin 2045, National Survey of Professional, Administrative, Technical, and Clerical Pay, March 1979, will be used for this survey.

According to the 1979 PATC survey, establishments in the Standard Metropolitan Statistical Areas (SMSAs) employed over five-sixths of all workers and nine-tenths of the professional, administrative, clerical, and supervisory employees within the scope of the survey. Nine-tenths of the employees in the occupations chosen for study were employed in the SMSAs. The survey population for this study will, therefore, be selected from the population as described above, working in metropolitan areas. Geographic representation from the east-northeast, south-southwest, west and midwest will be provided within contract resources.

A two-stage sample is planned. The firms will be selected in the first stage and employees will be selected in the second stage.

In selecting the firms, a geographic stratification will be used in order to keep within budget constraints. Next, firms will be randomly selected from the geographic strata using a random numbers table. Sampling without replacement will be employed.

After the participating firms have been identified, a random sampling without replacement will be used to select employees. Sampling details are presented below.

- A sampling frame will be developed consisting of at least 50 companies listed in either Fortune Magazine's 500 largest or second largest industrials, or in Standard and Poor's Directory. These companies must meet two additional criteria:
  - They must be in an industry within the scope of the PATC survey as defined by the Standard Industrial Classification (SIC) for the type of work performed (see Table 2.1).
  - They must employ the minimum number of employees for the industry as specified for the PATC surveys (Table 2.1).

TABLE 2.1

NUMBER OF ESTABLISHMENTS AND WORKERS WITHIN SCOPE OF SURVEY AND NUMBER STUDIED BY INDUSTRY DIVISION, UNITED STATES, MARCH 1979*

Industry division[1]	Number of SICs	Minimum employment in establishments within scope of survey	Within scope of survey: Number of establishments	Within scope of survey: Workers in establishments: Total	Within scope of survey: Workers in establishments: Professional and administrative	Within scope of survey: Workers in establishments: Clerical and technical support	Studied: Number of establishments	Studied: Workers in establishments: Total	Studied: Workers in establishments: Professional and administrative	Studied: Workers in establishments: Clerical and technical support
UNITED STATES - ALL INDUSTRIES[2]	506	-	40,251	22,923,125	4,662,279	4,608,534	3,529	7,008,645	1,456,781	1,647,996
MANUFACTURING	167	[3] 100-250	19,845	12,971,780	1,625,948	2,345,947	1,787	4,105,803	551,715	940,092
NONMANUFACTURING:										
MINING	42	250	547	343,776	40,117	56,257	57	71,722	9,910	15,673
CONSTRUCTION	26	250	454	193,130	33,655	52,255	41	39,971	8,770	16,912
TRANSPORTATION, COMMUNICATION, ELECTRIC, GAS, AND SANITARY										
SERVICES	67	[4] 100-250	3,712	2,692,631	609,498	598,895	429	1,263,858	318,844	307,817
WHOLESALE TRADE	61	100	4,606	963,142	270,081	251,397	239	64,926	21,714	23,315
RETAIL TRADE	63	250	3,517	2,999,477	580,121	369,672	382	750,838	162,125	78,363
FINANCE, INSURANCE, AND REAL ESTATE	70	100	5,476	2,099,906	1,264,275	609,034	401	533,665	330,453	149,154
SELECTED SERVICES[5]	10	[6] 50 -100	2,094	659,283	238,584	325,077	193	177,862	53,250	96,670
Nonmanufacturing	319									
METROPOLITAN AREAS - ALL INDUSTRIES[7]		-	32,619	19,162,682	4,308,335	4,205,122	2,944	6,452,244	1,398,704	1,568,566
MANUFACTURING	Same as Above	[3] 100-250	14,395	9,982,015	1,405,696	2,053,376	1,351	3,670,163	510,765	880,907
NONMANUFACTURING:										
MINING		250	261	161,759	28,010	37,011	26	39,365	5,809	9,442
CONSTRUCTION		250	367	165,659	31,733	49,610	35	33,977	8,511	16,504
TRANSPORTATION, COMMUNICATION, ELECTRIC, GAS, AND SANITARY										
SERVICES		[4] 100-250	2,780	2,365,189	561,561	552,067	364	1,204,162	311,985	298,175
WHOLESALE TRADE		100	4,239	900,328	259,012	245,522	225	63,144	21,389	23,196
RETAIL TRADE		250	3,301	2,904,355	562,043	359,590	368	737,460	160,492	97,276
FINANCE, INSURANCE, AND REAL ESTATE		100	5,228	2,037,701	1,227,302	588,539	387	528,205	327,131	147,351
SELECTED SERVICES[5]		[6] 50 -100	2,048	645,676	232,978	319,407	188	175,768	52,622	95,715
ESTABLISHMENTS EMPLOYING 2,500 WORKERS OR MORE - ALL INDUSTRIES		-	1,026	6,803,581	1,380,889	1,609,433	745	5,217,427	1,073,919	1,278,451
MANUFACTURING		[3] 100-250	526	3,983,010	538,533	960,407	442	3,177,294	428,566	785,579

[1] As defined in the 1972 edition of the Standard Industrial Classification Manual, U.S. Office of Management and Budget.

[2] Establishments with total employment at or above the minimum limitation indicated in the first column; excludes Alaska and Hawaii.

[3] Minimum employment size was 100 for chemical and allied products; petroleum refining and related industries; machinery except electrical; electrical machinery, equipment, and supplies; transportation equipment; and instruments and related products. Minimum size was 250 in all other manufacturing industries.

[4] Minimum employment size was 100 for railroad transportation; local and suburban transit; deep sea foreign and domestic transportation; air transportation; communications, electric, gas, and sanitary services; and pipelines; and 250 for all other transportation industries. U.S. Postal Service is excluded from the survey.

[5] Limited to advertising; credit reporting and collection agencies; computer and data processing services; research and development laboratories; commercial testing laboratories; management and public relations services, engineering and architectural services; noncommercial research organizations; and accounting, auditing, and bookkeeping services.

[6] Minimum employment size was 50 for accounting, auditing, and bookkeeping services; and 100 in all other selected services.

[7] Standard metropolitan statistical areas in the United States, except Alaska and Hawaii, as revised through June 1977 by the U.S. Office of Management and Budget.

*Source: BLS Bulletin No. 2045.

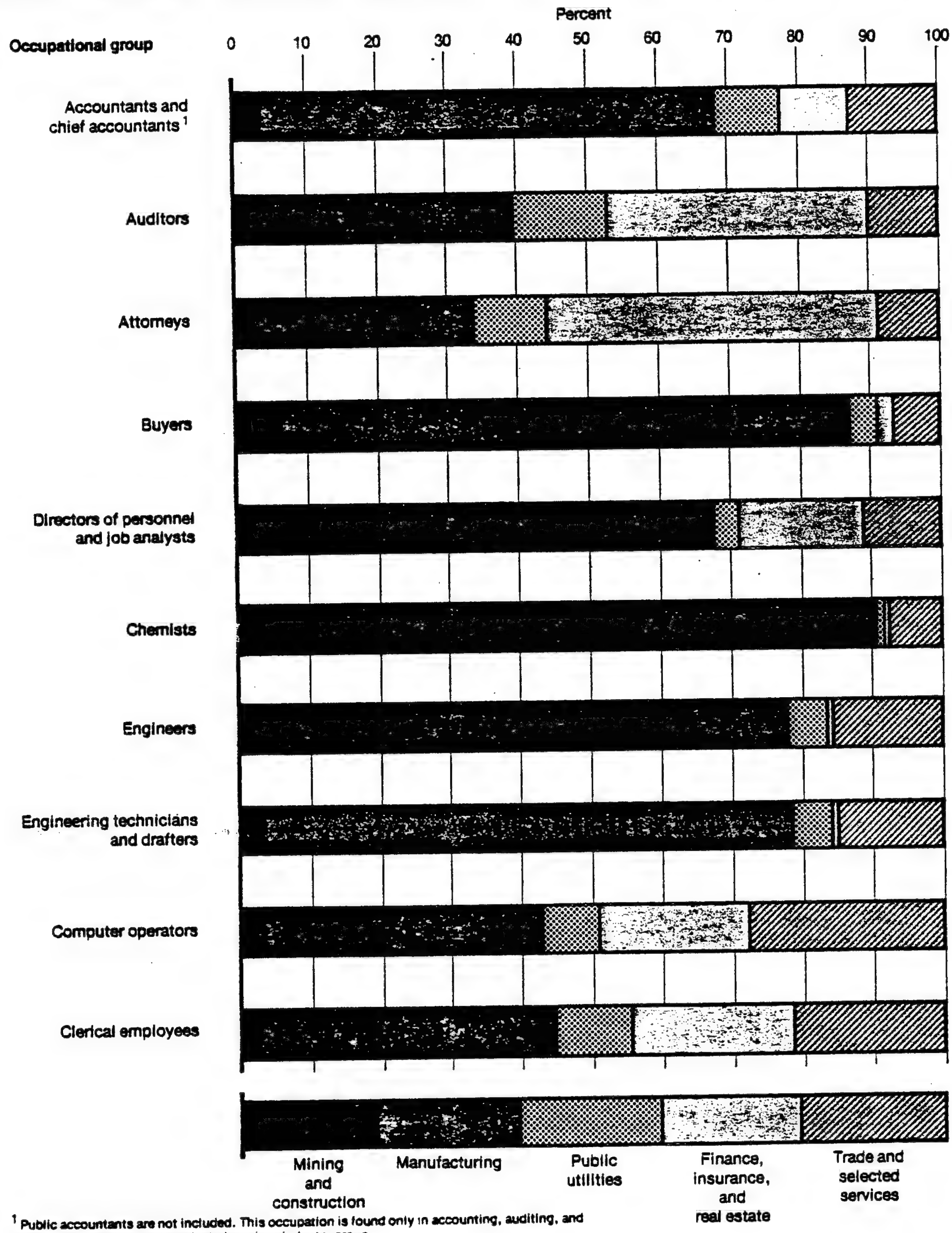
- After GRC has obtained clearance for the survey from the Office of Management and Budget (OMB), the 50 companies will be contacted to ascertain their willingness to participate. Several firms that have participated in other GRC compensation research have already indicated a willingness to participate in this study. It is believed that the cooperation of additional companies and their employees can be obtained by providing assurance that GRC will treat all information in complete confidence and that they will be given access to findings.[1] To this end, all analyses, reports, etc., will be prepared on a nonattribution basis as to source (e.g., Company A, employee A3). It is desired that a minimum of 25 companies participate. If necessary, the company list will be expanded until that minimum participation is attained. To the extent possible, companies selected for the survey will be those employing several of the PATC occupations. In the company selection process, consideration will also be given to achieving the greatest possible diversity in industries, based on the SICs represented in the sample. As Table 2.1 shows, 506 industries (4 digit SICs) were included in the 1979 PATC survey. The OMB clearance requirement is discussed later on in this plan.

- Once the list of participating firms is established, 8 of the 19 occupations having the broadest relative employment across the selected industries will be selected for personnel interviews. Table 2.2 shows the relative employment in selected occupational groups by industry division in the March 1979 PATC survey. Assuming the participation of a minimum of 25 firms, and the designation of the 8 positions indicated, the sample as described in Table 2.3 may be considered as illustrative of the maximum impact on each firm.

[1] This assumption is supported by voluntary cooperation obtained from selective firms during the pretest.

TABLE 2.2

RELATIVE EMPLOYMENT IN SELECTED OCCUPATIONAL GROUPS BY INDUSTRY DIVISION, MARCH 1979



[1] Public accountants are not included. This occupation is found only in accounting, auditing, and bookkeeping services in the selected services industry group.

Source: US Department of Labor, BLS Bulletin 2045, National Survey of Professional, Administrative, Technical, and Clerical Pay, March 1979.

TABLE 2.3

SAMPLE DESCRIPTION

Position	Number of Firms Surveyed*	Respondents Per Firm†	Sample Size‡
1. Accountant‡	25	3	75
2. Auditor	25	3	75
3. Engineering Technician	25	3	75
4. Computer Operator	25	3	75
5. Director of Personnel	25	1	25
6. Job Analyst	25	3	75
7. Secretary	25	4	100
8. File Clerk	25	4	100
Total	25	24§	600

*Non-additive.

†Subject to adjustment based on number available.

‡Selected by occupation and grade level.

§Represents maximum impact per firm.

The positions selected will be those having the broadest representation across the industry divisions.

- If participating firms agree, the individuals to be interviewed will be randomly selected by occupation and grade level from the firm's list of personnel classified by occupation. The objective will be to select a sample from which average annual salaries comparable to those for the Federal Government can be determined. Table 2.4 displays the comparison of average annual salaries in private industry with Federal salary rates and General Schedule grades as reported in the March 1979 PATC survey. The occupational definitions contained in the PATC survey (BLS Bulletin 2045)

TABLE 2.4

COMPARISON OF AVERAGE ANNUAL SALARIES IN PRIVATE INDUSTRY WITH SALARY RATES FOR FEDERAL EMPLOYEES UNDER THE GENERAL SCHEDULE

Occupation and level surveyed by BLS[1]	Average annual salary in private industry,[2] March 1979	Salary rates for Federal employees under the General Schedule, March 1979 and October 1979[3]											
		Grade[4]	Average,[5] March 1979 and October 1979	Step[6] 1	2	3	4	5	6	7	8	9	10
File clerks I	$7,063	GS 1	$6,694	$6,561	$6,780	$6,999	$7,218	$7,437	$7,656	$7,875	$8,094	$8,313	$8,532
Messengers	8,112		(7,348)	(7,210)	(7,450)	(7,690)	(7,930)	(8,170)	(8,410)	(8,650)	(8,890)	(8,902)	(9,126)
Accounting clerks I	8,248	GS 2	7,630	7,422	7,669	7,916	8,163	8,410	8,657	8,904	9,151	9,398	9,645
Drafters I	9,395		(8,333)	(8,128)	(8,399)	(8,670)	(8,902)	(9,002)	(9,267)	(9,532)	(9,797)	(10,062)	(10,327)
File clerks II	8,265												
Key entry operators I	9,094												
Typists I	8,398												
Accounting clerks II	9,555	GS 3	8,998	8,366	8,645	8,924	9,203	9,482	9,761	10,040	10,319	10,598	10,877
Drafter II	10,715		(9,627)	(8,952)	(9,250)	(9,548)	(9,846)	(10,144)	(10,442)	(10,740)	(11,038)	(11,336)	(11,634)
Engineering technicians I	10,825												
File clerks III	10,483												
Key entry operators II	10,833												
Personnel clerks I	8,979												
Stenographers, general	10,931												
Typists II	10,125												
Accounting clerks III	11,367	GS 4	10,460	9,391	9,704	10,017	10,330	10,643	10,956	11,269	11,582	11,895	12,208
Computer operators I	9,198		(11,193)	(10,049)	(10,384)	(10,719)	(11,054)	(11,389)	(11,724)	(12,059)	(12,394)	(12,729)	(13,064)
Drafters III	12,835												
Engineering technicians II	12,690												
Personnel clerk II	10,683												
Secretaries I	10,354												
Stenographers, senior	12,458												
Accounting clerks IV	13,606	GS 5	11,935	10,507	10,857	11,207	11,557	11,907	12,257	12,607	12,957	13,307	13,657
Accountants I	13,595		(12,773)	(11,243)	(11,618)	(11,993)	(12,368)	(12,743)	(13,118)	(13,493)	(13,868)	(14,243)	(14,618)
Auditors I	13,482												
Buyers I	13,859												
Chemists I	14,455												
Computer operators II	10,875												
Drafters IV	15,307												
Engineers I	17,345												
Engineering technicians III	15,094												
Personnel clerks III	12,060												
Secretaries II	11,375												
Computer operators III	12,013	GS 6	13,498	11,712	12,102	12,492	12,882	13,272	13,662	14,052	14,442	14,832	15,222
Personnel clerks IV	14,298		(14,445)	(12,531)	(12,949)	(13,367)	(13,785)	(14,203)	(14,621)	(15,039)	(15,457)	(15,875)	(16,293)
Secretaries III	12,861												

See footnotes at end of table.

Source: BLS Bulletin 2045, March 1979.

TABLE 2.4 (Cont.)

COMPARISON OF AVERAGE ANNUAL SALARIES IN PRIVATE INDUSTRY WITH SALARY RATES FOR FEDERAL EMPLOYEES UNDER THE GENERAL SCHEDULE

Occupation and level surveyed by BLS[1]	Average annual salary in private industry,[3] March 1979	Salary rates for Federal employees under the General Schedule, March 1979 and October 1979[3]											
		Grade[4]	Average,[5] March 1979 and October 1979	Step[6]									
				1	2	3	4	5	6	7	8	9	10
Accountants II	$16,706	GS 7	$14,736	$14,014	$13,448	$13,882	$14,316	$14,750	$15,184	$15,618	$16,052	$16,486	$16,920
Auditors II	16,493		(15,766)	(13,926)	(14,389)	(14,853)	(15,317)	(15,781)	(16,245)	(16,709)	(17,173)	(17,637)	(18,101)
Buyers II	17,107												
Chemists II	17,365												
Computer operators IV	14,921												
Drafters V	19,269												
Engineers II	19,026												
Engineering technicians IV	17,624												
Job analysts II	15,333												
Personnel clerks V	16,518												
Public accountants I	13,939												
Secretaries IV	14,075												
Computer operators V	16,975	GS 8	16,734	14,414	14,894	15,374	15,854	16,334	16,814	17,294	17,774	18,254	18,734
Secretaries V	15,693		(17,907)	(15,423)	(15,397)	(16,461)	(16,965)	(17,479)	(17,993)	(18,507)	(19,021)	(19,535)	(20,049)
Accountants III	19,468	GS 9	17,869	15,920	16,451	16,982	17,513	18,044	18,575	19,106	19,637	20,168	20,699
Attorneys I	18,740		(19,119)	(17,035)	(17,603)	(18,171)	(18,739)	(19,307)	(19,875)	(20,443)	(21,011)	(21,579)	(22,147)
Auditors III	20,303												
Buyers III	21,200												
Chemists III	21,025												
Engineers III	21,931												
Engineering technicians V	20,222												
Job analysts III	20,106												
Public accountants II	15,817												
Accountants IV	24,045	GS11	21,697	19,263	19,905	20,547	21,189	21,831	22,473	23,115	23,757	24,399	25,041
Attorneys II	23,468		(23,215)	(20,611)	(21,298)	(21,985)	(22,672)	(23,359)	(24,046)	(24,733)	(25,420)	(26,107)	(26,794)
Auditors IV	24,700												
Buyers IV	25,508												
Chemists IV	25,459												
Chief accountants I	25,457												
Directors of personnel I	22,996												
Engineers IV	25,989												
Job analysts IV	24,231												
Public accountants III	19,174												
Accountants V	29,744	GS 12	26,156	23,087	23,857	24,627	25,397	26,167	26,937	27,707	28,477	29,247	30,017
Attorneys III	29,644		(27,984)	(24,703)	(25,526)	(26,349)	(27,172)	(27,995)	(28,818)	(29,641)	(30,464)	(31,287)	(32,110)
Chemists V	30,828												
Chief accountants II	29,604												
Directors of personnel II	27,981												
Engineers V	30,472												
Public accountants IV	24,183												

See footnotes at end of table.

TABLE 2.4 (Cont.)

COMPARISON OF AVERAGE ANNUAL SALARIES IN PRIVATE INDUSTRY WITH SALARY RATES FOR FEDERAL EMPLOYEES UNDER THE GENERAL SCHEDULE

Occupation and level surveyed by BLS[1]	Average annual salary in private industry,[2] March 1979	Salary rates for Federal employees under the General Schedule, March 1979 and October 1979[3]											
		Grade[4]	Average,[5] March 1979 and October 1979	Step[6]									
				1	2	3	4	5	6	7	8	9	10
Attorneys IV	$37,807	GS 13	$31,440	$27,453	$28,368	$29,283	$30,198	$31,113	$32,028	$32,943	$33,858	$34,773	$35,688
Chemists VI	35,232		(33,641)	(29,376)	(30,354)	(31,333)	(32,312)	(33,291)	(34,270)	(35,249)	(36,228)	(37,207)	(38,186)
Chief accountants III	36,561												
Directors of personnel III	34,285												
Engineers VI	34,801												
Attorneys V	45,599	GS 14	37,112	32,442	33,523	34,604	35,685	36,766	37,847	38,928	40,009	41,090	42,171
Chemists VII	42,016		(39,711)	(34,713)	(35,870)	(37,027)	(38,184)	(39,341)	(40,498)	(41,655)	(42,812)	(43,969)	(45,126)
Chief accountants IV	45,274												
Directors of personnel IV	43,933												
Engineers VII	39,340												
Attorneys VI	56,964	GS 15[7]	43,948	38,160	39,432	40,704	41,976	43,248	44,520	45,792	47,064	48,336	49,608
Chemists VIII	48,961		(46,887)	(40,832)	(42,193)	(43,554)	(44,915)	(46,276)	(47,637)	(48,998)	(50,359)	(51,720)	(53,081)
Engineers VIII	45,221												

[1] For definitions, see appendix C.

[2] Survey findings, as summarized in table 1 of this bulletin. For scope of survey, see appendix A.

[3] General Schedule rates in effect in March 1979, the reference date of the PATC survey, are shown on the first line for each grade. Rates as adjusted in October 1979 are shown in parentheses.

[4] Corresponding grades in the General Schedule were supplied by the Office of Personnel Management.

[5] Mean salary of all General Schedule employees in each grade as of March 31, 1979. Not limited to Federal employees in occupations surveyed by BLS. October 1979 averages are shown in parentheses.

[6] Section 5335 of title 5 of the U.S. Code provides for within-grade increases on condition that the employee's work is of an acceptable level of competence as defined by the head of the agency. For employees who meet this condition, the service requirements are 52 calendar weeks each for advancement to salary rates 2, 3, and 4; 104 weeks each for advancement to salary rates 5, 6, and 7; and 156 weeks each for advancement to salary rates 8, 9, and 10. Section 5336 provides that an additional within-grade increase may be granted within any period of 52 weeks in recognition of high quality performance above that ordinarily found in the type of position concerned.

[7] The rate of pay for employees at some steps is limited by section 5308 of title 5 of the U.S. Code to the rate for level V of the Executive Schedule.

Under Section 5303 of title 5 of the U.S. Code, higher minimum rates (but not exceeding the maximum salary rate prescribed in the General Schedule for the grade or level) and a corresponding new salary range may be established for positions or occupations under certain conditions. The conditions include a finding that the Government's recruitment or retention of well qualified persons is significantly handicapped because the salary rates in private industry are substantially above the salary rates of the statutory pay schedules. As of March 1979, special, higher salary ranges were authorized for professional engineers at the entry grades (GS-5 and GS-7), and at GS-9. Information on special salary rates, including the occupations and the areas to which they apply, may be obtained from the Office of Personnel Management, Washington, D.C. 20415, or its regional offices.

will be the guide for determining private sector/Federal government job comparability.

THE SURVEY INSTRUMENTS

For this project, the survey instruments will be used during face-to-face interviews to elicit responses that will provide a basis for evaluating the nonpecuniary factors associated with positions in private employment that are comparable to those in the Federal Government. Therefore, interview guides have been prepared.

Determining the existence of various nonpecuniary factors will be a challenging task. One person's nonpecuniary benefit could well be another's disincentive. We, therefore, deemed it essential at the outset of our previous work performed under Contract No. MDA903-79-C-0208 to establish a working definition for nonpecuniary factors as follows:

- Nonpecuniary Factors: Factors which are not directly tied to wage and benefit packages but may be considered as part of a job's "compensation package." Some can be physically identified and impose clear-cut costs on the employer (e.g., the effects of training on promotion and job security). Still others fall in more subjective categories which involve the measurement of attitudes and perceptions regarding work, a particular organizational setting, and the desirability of certain kinds of work. Those factors affecting career progression and job security are of particular interest to this study.

Within the framework of this definition, and to assist in focusing our data collection efforts, we developed what we call essential elements of information (EEIs). These EEIs are observable, and in some instances measurable, indicators which will aid the researcher in identifying the existence of the various nonpecuniary factors at the work site. The nonpecuniary factors and the related EEIs are listed in Appendix A.

Based on the EEIs in Appendix A, survey information will be collected from three sources during onsite visits to selected private firms. Separate instruments have been prepared for each source:

- Documented data (to the extent possible) from company officials and company records for such information items as salaries and cost to the company per employee for fringe benefits. These data requirements are itemized in Appendix B, Information to Be Collected from Company Management.
- The observations of employees and facilities by experienced researchers for information on nonpecuniary factors (working conditions, nature of supervision, etc.). See Appendix C, Guide for Onsite Observations.
- One-on-one interviews with employees for information not otherwise obtainable. The guide for these interviews is Appendix D, Employee Interviews.

Each of the above-mentioned instruments contains clear instructions, and introductory comments where appropriate, to facilitate uniformity in their administration.

DATA COLLECTION

As previously stated, three modes of data collection will be employed in this study. In addition to obtrusive measures (employee interviews), the study will include the observations of trained observers (less intrusive than interviews because the workers will be attending to their work as well as to the presence of observers), and the collection of data from company records and management personnel (unobtrusive). As many modes as possible will be used to assess each nonpecuniary factor as shown in Table 2.5. As is shown, data on some nonpecuniary factors, such as sense of challenge and meaningful and worthwhile work, can only be collected by employee interviews.

TABLE 2.5

DATA COLLECTION MODES

Nonpecuniary Factor	Unobtrusive (Company Data)	Less Obtrusive (Observations)	Obtrusive (Interviews)
Opportunity for advancement	X		X
Training for advancement	X		X
Job security	X		X
Sense of challenge			X
Self development			X
Meaningful and worthwhile work			X
Work autonomy		X	X
Hours of work	X		X
Adequate authority to do the job			X
Adequate resources to do the job		X	X
Working conditions	X	X	X
Nature of supervision		X	X
Relations with co-workers		X	X
Type of work		X	X
Recognition of work	X		X

The data collection procedure to be employed is as follows:

- GRC project personnel will meet initially upon arrival with the appropriate company management official to obtain compensation data and employee demographics from company records. This official is generally the personnel director or employee benefits officer. The information required (Appendix B) is obtained and arrangements for the observation and interview of selected employees are made at this time. This step requires from 1 to 1 1/2 hours.

- The next step is the observation and interview of employees. Each respondent is observed by two different GRC observers at different times of the day or on different days as follows:

  - The first observation/interview period will take 1 1/2 hours. The period is divided into three parts:

.	Familiarization observations	10 minutes
.	General observation	50 minutes
.	Employee interview	30 minutes

  - The second observation period is identical to the first except that no interview is conducted.

Appendix C contains the detailed instructions relating to these observations together with the observation elements. For the employee interview guide, see Appendix D.

While the observation of the respondent is performed at the place of work, every attempt will be made to conduct the interview in a place that affords as much privacy as possible. This is essential to insure the confidentiality of the information obtained.

DATA PROCESSING

To facilitate data processing, the survey instruments (Appendixes B, C, and D) have been precoded. This will enable keypunchers to punch directly from the survey instruments. It is, therefore, important for each questionnaire to be carefully edited upon completion to insure that

every question has been answered, that there are no multiple answers, and to clarify any unclear responses.

To assist researchers during the analysis phase, a codebook will be used to describe the location of variables in the survey data file and the keypunch assignments given to specific attributes making up those variables. Several functional tables will be established to code certain variables such as:

- Firm's Identification (ID) Number Table - Each participating firm will be assigned an ID number. To preserve the confidentiablity of all information collected, the names of firms will not be used on any survey instrument. Only the ID number will be used. This will preclude inadvertent breach of confidentiality.
- Employee ID Number - Each employee interviewed will be assigned an ID number to preserve the confidentiality of information provided. The Employee ID Code will be a subcode of the employing firm's ID number.
- Occupation Code - Each position covered by the survey will be assigned an ID number to facilitate data processing.

A prescribed list of codes is contained in Appendix E.

OFFICE OF MANAGEMENT AND BUDGET CLEARANCE

The size of the survey makes it mandatory to obtain OMB clearance prior to collecting the proposed information. This report contains most of the information required for an OMB clearance package. This will expedite the initiation of the major survey projected for FY 80. The requirements for OMB clearance are specified by standard form 83 with instructions; for a copy see Appendix F.

SECTION 3

THE SURVEY RESEARCH ANALYSIS PLAN

The purpose of this analysis is to estimate the monetary value of individual nonpecuniary factors by observing the differences in pecuniary and nonpecuniary compensation offered individuals in different private firms. As discussed in Section 2, it is proposed to gather data from a random selection of companies and their employees on the presence or absence of such factors. A statistical analysis approach would then be used to solve for the value of the nonpecuniary factors (NPFs). Two analytical approaches were considered for accomplishing this task, simultaneous equations and multivariate regression. After a thorough analysis, multivariate regression was determined to be the more suitable for the data collection design. Both analytical methods are discussed below.

SIMULTANEOUS EQUATIONS

This approach consists of developing systems of linear equations which explain variations in pay for like jobs in terms of the unknown components of perceived nonpecuniary factors. Since as many as k NPFs might be identified in m companies surveyed with $m > k$, it is proposed that the $\binom{m}{k}$* systems of k equations in k unknowns be solved and the mean and standard deviation of results determined. This approach can be described in detail as follows. For a given class of employees, let

V_i = the average monetary value of the total compensation offered by the i^{th} firm including both pecuniary and nonpecuniary benefits.

P_i = the average pecuniary compensation offered by the i^{th} firm.

n_j = the average monetary value of the j^{th} nonpecuniary benefit.

Z_{ij} = 1 if the i^{th} firm offers the j^{th} nonpecuniary benefit; 0, otherwise.

---

*$\binom{m}{k}$ denotes the number of combinations of k objects which may be chosen from a collection of m objects.

The average monetary value of the total compensation offered by the i^{th} firm to employees of the class under consideration is expressible as

$$V_i = P_i + \sum_j n_j Z_{ij}$$

Benefits which might occur at different levels (e.g., average, and low) are included by taking each level to be a separate variable at most one of which will have a nonzero coefficient.

In order to estimate the values of the n_j by comparing firms in the private sector, an equilibrium assumption is required. The most obvious assumption posits that the average compensation for employees of the same class is equal among firms; or rather, whatever compensation imbalances may exist are insufficient to overcome the inertia resisting movement between firms. (The extent to which this and other assumptions underlying this approach are not satisfied will be reflected in the standard deviations of the estimates derived from it.)

Furthermore, if one assumes additionally that all but k of the nonpecuniary benefits which may exist have negligible value for the employee group in question and that m firms are sampled, then the following system is obtained

$$V_i = P_i + \sum_{j=1}^{k} n_j Z_{ij} \quad \text{for } i = 1, 2, \ldots, m$$

$$V_1 = V_2 = \ldots = V_m$$

For cases where $m \geq k$, i.e., where at least as many firms are surveyed as there are nonpecuniary benefits under consideration, $\binom{m}{k}$ different estimates of the value of each of the nonpecuniary benefits

may potentially be obtained. To the extent that redundancies and inconsistencies exist, the number of estimates of individual values will be smaller.

As an example, consider the case of k = 3 nonpecuniary benefits to be monetized by sampling m = 4 firms. Barring inconsistencies and redundancies, the $\binom{4}{3} = 4$ estimates of the value of each of the three nonpecuniary benefits are obtained by solving the following systems.

$$
\begin{aligned}
V_1 &= P_1 + \sum_{j=1}^{3} n_j Z_{1j} \\
V_2 &= P_2 + \sum_{j=1}^{3} n_j Z_{2j} \\
V_3 &= P_3 + \sum_{j=1}^{3} n_j Z_{3j} \\
V_1 &= V_2 = V_3
\end{aligned}
\qquad
\begin{aligned}
V_1 &= P_1 = \sum_{j=1}^{3} n_j Z_{1j} \\
V_2 &= P_2 + \sum_{j=1}^{3} n_j Z_{2j} \\
V_4 &= P_4 + \sum_{j=1}^{3} n_j Z_{4j} \\
V_1 &= V_2 = V_4
\end{aligned}
$$

$$
\begin{aligned}
V_1 &= P_1 \div \sum_{j=1}^{3} n_j Z_{1j} \\
V_3 &= P_3 = \sum_{j=1}^{3} n_j Z_{3j} \\
V_4 &= P_4 + \sum_{j=1}^{3} n_j Z4j \\
V_1 &= V_3 = V_4
\end{aligned}
\qquad
\begin{aligned}
V_2 &= P_2 + \sum_{j=1}^{3} n_j Z_{2j} \\
V_3 &= P_3 + \sum_{j=1}^{3} n_j Z_{3j} \\
V_4 &= P_4 + \sum_{j=1}^{3} n_j Z_{4j} \\
V_2 &= V_3 = V_4
\end{aligned}
$$

The mean of the four estimates generated for each nonpecuniary benefit can be constructed and will serve as the estimate of the monetary value of the benefit. The standard deviation of the four estimates will serve as a measure of the precision of the estimates. The extent to which the assumptions underlying the development of this methodology are not satisfied will be reflected in the standard deviation of the monetary

estimates along with data error and random phenomena. Note that there are in fact k + 1 unknowns in each system, k NPFs, and V, the total compensation.

Our detailed evaluation of this approach revealed that there are several problems with it. First and most easily resolved is that the solutions of the $\binom{m}{k}$ systems would not be independent and thus inferences drawn from the standard deviation would be at best suspect. This could be resolved by solving only independent sets of equations.

A more difficult problem to resolve is in the very precise nature of the data which would be required to provide systems of equations which had unique solutions. As discussed in some detail below, random selection is virtually guaranteed to produce data which would preclude such solutions. In fact only a very careful selection of company/NPFs configurations would, if available, provide the desired result. There is considerable doubt as to whether such configurations in fact exist particularly in light of the fine level of detail being sought here.

Two alternatives suggest themselves. The first is to create larger aggregates of NPFs and then determine:

- What configurations of company/NPF are required to provide unique solutions.
- Identify such companies.

The first order of business here would be to derive necessary and sufficient conditions for the non-singularity of the special class of matrices in use here. This is solvable with some reasonable investment of effort, but could not be accomplished within the time and fund limitations of this pilot study.

To clarify the data problems inherent in the proposed approach, we examined the solution of the system of equations which results from 3 NPFs and 4 companies. Since V_i are constrained to be identical, let:

$$V = V_1 = V_2 = V_3 = V_4$$

The equations then become

$$V = P_1 + Z_{11}\ n_1 + Z_{12}\ n_2 + Z_{13}\ n_3$$
$$V = P_2 + Z_{21}\ n_1 + Z_{22}\ n_2 + Z_{23}\ n_3$$
$$V = P_3 + Z_{31}\ n_1 + Z_{32}\ n_2 + Z_{33}\ n_3$$
$$V = P_4 + Z_{41}\ n_1 + Z_{42}\ n_2 + Z_{43}\ n_3$$

Note that there are four unknowns. These may be rewritten by eliminating V:

$$P_1-P_2 = (Z_{21}-Z_{11})n_1 + (Z_{22}-Z_{12})n_2 + (Z_{23}-Z_{13})n_3$$
$$P_1-P_3 = (Z_{31}-Z_{11})n_1 + (Z_{32}-Z_{12})n_2 + (Z_{33}-Z_{13})n_3$$
$$P_1-P_4 = (Z_{41}-Z_{11})n_1 + (Z_{42}-Z_{12})n_2 + (Z_{43}-Z_{13})n_3$$

Note here that while other choices of pairs could be made, they are all implied by those chosen.

The determinant of the coefficient matrix is then

$$\begin{aligned}&(Z_{21}-Z_{11})\ \{\ (Z_{32}-Z_{12})\ (Z_{43}-Z_{13}) - (a_{33}-Z_{13})\ (Z_{42}-Z_{12})\}\\ &- (Z_{22}-Z_{12})\ \{\ (Z_{31}-Z_{11})\ (Z_{43}-Z_{13}) - (Z_{33}-Z_{13})\ (Z_{41}-Z_{11})\ \}\\ &+ (Z_{23}-Z_{13})\ \{\ (Z_{31}-Z_{11})\ (Z_{42}-Z_{12}) - (a_{32}-Z_{12})\ (Z_{41}-Z_{11})\ \}\end{aligned}$$

Now consider, for example, some conditions under which this matrix would be singular:

(1) $Z_{21} = Z_{11}$, $\qquad Z_{22} = Z_{12}$, $\qquad Z_{23} = Z_{13}$

or stated verbally, companies one and two provide identical NPFs. Since the determinant could be expanded around any row, this extends to any pair of companies providing identical benefits:

(2) $Z_{2i} = Z_{1i}, \qquad Z_{3i} = Z_{1i}, \qquad Z_{4i} = Z_{1i}$

or,

all four companies provide at least one common NPF.

(3) $Z_{21} = Z_{11} = Z_{22} = Z_{12}$

$Z_{31} = Z_{11} = Z_{22} = Z_{12}$

$Z_{41} = Z_{11} = Z_{42} = Z_{12}$

or, either:

a) Company one gives neither NPF 1 nor 2; companies two, three, and four behave identically as to NPFs 1 and 2.

b) Company one gives 1 and not 2 and companies two, three, and four give 1 and not 2 [this is subsumed in (2)].

c) Company one gives 2 and not 1 and companies two, three, and four give 2 and not 1 [also subsumed in (2)].

There are obviously many other combinations which will yield a singular matrix. Random selection of companies seems virtually assured to produce at least one of them.

The genesis of the problem lies in the fact that the particular company/benefit configuration must be very carefully chosen if the desired result is to be achieved. To see this, consider that instead of randomly selecting companies we had it in our power to choose appropriate configurations. If we could find one company which offered one NPF only, then we should seek one which offered none and compare salaries.

Or, failing this, find a company which offered one different NPF but not the first and an additional company which offered both. Then we could find the difference and the sum of the values of the two NPFs and solve for both. Now consider more realistically that we have data on a company which offers k NPFs and we wish to evaluate one of them. Then the only comparisons of interest will be with companies which do not offer it. Note that we may have to incorporate a great number of companies in our analysis until summing and differencing provides us the value of the remaining k - 1 NPFs. This provides the value of only one of k NPFs. In short, even with non-random selection and unlimited resources, we would run out of companies before we would have the information necessary to solve the problem as it has been stated.

The second alternative would be to estimate regression equations, possibly, as a first cut, linear with pay as dependent and NPFs as dummy independent variables. Many variants of this approach are possible depending on initial outcomes. The end product would be an assessment of the significance of NPFs in compensation and estimates of their values, if significant. Note that for this purpose as opposed to simultaneous equations, the random design is essential. This approach is discussed in more detail later in this section.

In summary, we concluded that there are two very distinct ways to proceed. The first would entail reduction of the number of NPFs to a few representative aggregates. Then, having determined the configuration of companies/NPFs necessary to provide a unique solution, seek out such companies and solve. Note the distinctly non-random selection entailed in this approach.

The second is to randomly select companies and employees and attempt to determine by regression the extent to which, all other things being equal, NPFs explain variation in salary.

We must emphasize here that either approach could be productive but each requires a distinctly different experimental design and data

collection effort. Our current data collection design has been determined to be best adapted to the regression approach discussed below. However, the simultaneous equation approach is an appropriate subject for continued research in the future.

MULTIVARIATE REGRESSION

This approach involves estimating linear regression equations with pay as dependent and NPFs as independent variables. The end product will be an assessment of the significance of NPFs in compensation and estimates of their value, if significant.

As a dependent variable the average salary of firm i for occupation j plus the cash value of fringe benefits of firm i for occupation j is used. If firm i reports that the average fraction of payroll devoted to all fringe benefits for those in occupation j is 30% and the average salary of an individual in occupation j is $20,000, then the value of the dependent variable for that individual is 1.3 x $20,000 = $26,000. Consideration will also be given to using the natural logarithm of annual salaries plus fringe benefits as the dependent variable rather than the dollar amount.

Independent variables will be measures of nonpecuniary factors such as dichotomous measures of whether the firm offers an on-the-job training program, whether the observers judge the work environment excessively noisy, whether the observers judge that the work is performed with no choice on the part of the employee, whether company records indicate that most of the senior members of a given occupation are promoted from within, and the fraction of employees in the occupation who were laid off in the past year, etc.

Measures of employee education and experience and characteristics of the firm including plant size, firm size, firm location (urban, suburban, or rural), and whether employees are covered by a collective bargaining agreement will also be treated experimentally as independent variables.

All of the required data are provided in the collection instruments (Appendixes B, C, and D).

This approach can be expressed as follows. The interviews will be partitioned into subpopulations by firm characteristics and job if possible or by salary range as a minimum. For each subpopulation, a multivariate regression of the form below will be used:

$$P_i = a_0 + a_1 n_1 + a_2 n_2 + \dots + a_m n_m$$

where

P_i is the pecuniary compensation of the i^{th} individual.

n_j is a dummy variable equal to 1 if the j^{th} nonpecuniary factor is present for the individual in the subpopulation and 0 otherwise.

$a_0, a_1, \dots, a_m$ are coefficients estimated by the regression and will represent the central tendency for the total compensation package (a_0) and the estimated values of each NPF ($a_1 \dots a_m$).

The results of the regressions will be estimates of the value of the nonpecuniary factors by subpopulation. This approach is illustrated in detail in the Section 4 discussion of the pretest data analysis.

SECTION 4

THE SURVEY PRETEST

The pretest was designed to test the survey instruments and the data collection, data processing, and statistical analysis plans. The pretest was, therefore, conducted as a miniaturized walkthrough of the entire study plan discussed in the preceding sections. It differed from the actual survey only in scale.

THE PRETEST SAMPLE

The size of the pretest sample was severely limited to avoid the need for OMB clearance. Additionally, to save time and travel costs, the sample was drawn solely from among firms in the Washington-Baltimore metropolitan areas.

The survey procedures described in Section 2 were followed for the pretest.

- A sampling frame consisting of 50 companies listed in either Fortune Magazine's largest or second largest industrials or in Standard and Poor's Directory was developed.
- Eight of the firms listed in the sampling frame which are located in the Washington-Baltimore metropolitan areas were contacted by telephone to solicit their participation in the pretest. All contacts were with corporate officials (vice presidents for personnel/administration, directors of personnel, etc.). Telephone calls were followed by letters formalizing the requests for assistance. For a typical letter request, see Appendix G. Four firms agreed to participate in the pretest and four declined, as shown in Table 4.1. Only two of the four participating firms permitted the observation and interview of employees, however. The other two firms, while quite willing to provide company management data and to arrange discussions with corporate officials and tours of their facilities, felt that, for various reasons, on-the-

TABLE 4.1

PRETEST SAMPLE

Participating Firms

Firm Number	Standard Industrial Classification	Location	Survey Dates	Type of Participation: Provided Company Data (Appendix B)	Type of Participation: Employee Observations/Interviews (Appendixes C and D)
01	Miscellaneous Retail and Business Services	Suburban Maryland	10/2/79	Yes	No (reorganization recently completed)
02	Railroad Transportation	Washington, D.C.	10/3/79	Yes	No (too many government surveys recently)
03	Banking	Washington, D.C.	10-11 Oct. 79	Yes	Yes
04	Petroleum Refining and Related Industries	Suburban Maryland	15-16 Oct. 79	Yes	Yes

Firms Declining to Participate

	SIC	Reason:
05	Air Transportation, certified carriers	Major reorganization underway - would consider next survey.
06	General Merchandise stores	Ongoing union negotiations - would consider next survey.
07	Office, computing	Press of business - would consider next survey.
08	Perfumes, cosmetics, and other toilet perparations.	Inopportune timing - would consider next survey.

job contact with their employees was inappropriate at the time. The four firms who declined participation in the pre-test expressed an interest and willingness to participate in the survey at a later time, circumstances permitting.

- The random sample selected at the two firms participating fully in the survey is shown in Table 4.2.

TABLE 4.2

RANDOM SAMPLE

Occupation	Firm 03	Firm 04	Total
Accountant	3	3	6
Auditor	3	0	3
Secretary	3	3	6
Director of Personnel	0	1	1
Keypunch Operator	0	2	2
Total	9	9	18

PRETEST DATA COLLECTION

A unique feature of the data collection methodology designed for this study is the use of standardized job observations described in Section 2. Each survey respondent was observed twice for an hour. The observations were scheduled so that the two observations were separated by at least four hours, were usually done at different times of the day (or the next day), and were always done by two different observers. This technique has been tested and documented by the Institute for Social Research, University of Michigan.[1] To be used effectively it is essential that observers be trained before data collection commences so that they will agree with each other when observing identical jobs and their ratings will be relatively consistent.

[1]Robert P. Quinn et al., Effectiveness in Work Roles: Employee Responses to Work Environments, Volumes I and II, Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, Michigan, December 1977.

The GRC team of three experienced researchers trained together for two days. During this period, in order to obtain a high degree of inter-observer agreement, emphasis was placed on such matters as:

- Development of an understanding of the underlying concepts of the observation instrument (e.g., what is work autonomy?).
- Conducting practice observations and interviews and critiquing ratings to determine reasons for variances. The objective of this portion of the training was to achieve repeatability in observer ratings. Repeatability, in the case of standardized job observations, is the degree of agreement between the ratings of two observers viewing (a) the <u>same job</u> at the <u>same time</u> and (b) the <u>same job</u> at <u>different times</u>.[1] The training successfully achieved the desired results. A review of observer ratings after completion of the pretest revealed that in almost every instance the band of variance of ratings was very narrow as illustrated in Figure 4.1.

---

3. How much <u>autonomy</u> is there in the job?

<u>OR</u>

1 2 3 4 5 6 7

Observer 1 — 3; Observer 2 — 4   Observer 1 — 6; Observer 2 — 7

Very little; the individual has almost no "say" about scheduling the work or about procedures to be used in doing it	Moderate autonomy; the individual can make some of the decisions about how the work is done, but many work-related decisions and procedures are not under his/her control	Very much; the individual has almost complete responsibility for scheduling the work and for determining the procedures which are used in doing it

Figure 4.1. Interobserver Agreement

[1] Quinn, op. cit., Vol. I, pages 145-146.

The purpose of pretesting the survey instruments is to determine if they gather the information intended and to identify and resolve unanticipated problems in their use. No need for any significant change in the survey instruments (Appendixes B, C, and D) was uncovered during the pretest. The instruments proved to be easy to administer for both interviewers and respondents. Minor changes were made to enhance their effectiveness. For example two questions previously in Appendix C were unanimously considered to be duplicative by team members and were deleted. It was also proven that the employee interview guide (Appendix D) requires only 15 minutes to administer instead of the 30 minutes previously expected.

The precoding of the survey instruments greatly facilitated key-punching directly from the forms. This saves time and effort.

DATA ANALYSIS

Although it was recognized that the amount of data available from the small pretest sample placed limitations on the results obtainable, a data analysis pretest was nevertheless conducted.

Since only 18 individuals were interviewed for this pilot study, an abbreviated multivariate regression was indicated. The form of the regression is

$$P_i = a_0 + a_1 n_1 + a_2 n_2 + \dots + a_m n_m$$

where

P_i is the pecuniary compensation of the $i^{\underline{th}}$ individual

n_j is a pecuniary variable equal to 1 if the $j^{\underline{th}}$ nonpecuniary factor or other independent variable is present for the $i^{\underline{th}}$ individual and 0 otherwise

a_0, a_1, ..., a_m are coefficients estimated by the regression.

The values for the regression were developed as follows:

- The total salary (P_i) for each individual was computed by multiplying the annual salary by the payroll fraction for fringe benefits reported by the company.

- The values denoting the presence (1) or absence (0) of the nonpecuniary factors (NPFs) were determined in three steps:

  -- First, the employee interviews (Appendix D) were reviewed to establish the absence or presence of the NPFs. The 59 variables contained therein [which we previously described in Appendix A as essential elements of information (EEIs)] were used to identify the 15 NPFs. In responding to the 59 questions, respondents were given five choices to select from: Strongly Agree (4), Agree (3), Disagree (2), Strongly Disagree (1), and Don't Know (0). The questions in Appendix D are phrased so as to elicit an agreeable response if the condition exists. Therefore, in determining the presence of absence of each EEI, ratings of 4 or 3 were scored as present (1) while ratings of 2, 1, and 0 were scored as absent (0). Multiple EEIs exist for most nonpecuniary factors. In such cases a majority of the subordinate EEIs had to be scored as present in order for the NPF to be scored as present. This step is illustrated in Figure 4.2.

  -- The results obtained from the employee interviews were compared with the observer ratings (Appendix C) for those NPFs rated by both. Any conflict in ratings were resolved in favor of the observer's rating. As shown in Figure 4.1, observer ratings are also scaled. On the scale shown in Figure 4.1, a rating of 1, 2 or 3 would score the NPF of work autonomy as absent (0). A rating of 4 through 7 would score it as present (1).

Sense of Challenge	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know		EEI[1] Rating
9. My work is interesting (39).	4	3	2	1	0	=	1
10. I can see the results of my work (40). . . .	4	3	2	1	0	=	1
11. I have an opportunity to develop my special abilities (41)	4	3	2	1	0	=	0
12. I have an opportunity to use my special abilities (42)	4	3	2	1	0	=	0
13. The problems I am asked to solve are hard enough (43).	4	3	2	1	0	=	1
14. I am given a chance to do the things I do best (44).	4	3	2	1	0	=	1
			Overall NPF Rating				1

[1]Present = 1
Absent = 0

Figure 4.2. Nonpecuniary Factor Rating System

-- Finally, the product resulting from the preceding step was compared with related information obtained from company management (Appendix B). Conflicts with management data were resolved in favor of management. For example, if the company indicated that no training was provided for employees, the NPF called "training for advancement" was rated as absent (0) regardless of employee ratings. Questions put to management regarding NPFs are designed to elicit a "yes" or "no" response.

- The preceding steps resulted in 18 cases, as shown in Table 4.3, which were analyzed using the multiple regression model of the Statistical Package for Social Sciences (SPSS).[1] Table 4.3 reflects the last of several iterations which were necessary. It contains only 9 NPFs because the smallness of the sample did not provide sufficient discrimination between the missing ones (training for advancement, job security, self development, meaningful and worthwhile work, adequate resources, nature of supervision, relations with co-workers, working conditions, and hours of work). The absence of job security is of particular significance. We were unable to obtain turnover or layoff rates or job queue lengths and without at least one of these it is difficult to make a valid judgment about job security. During the forthcoming survey we will make it a matter of special emphasis to obtain at least one of these important measures of job security.

Although every attempt was made to conduct all phases of the pretest exactly in accordance with the procedures designed for the major survey, the limited amount of data available

[1] Norman H. Nie et al., SPSS, Statistical Package for the Social Sciences, Second Edition, McGraw-Hill, New York, 1975.

TABLE 4.3

MULTIVARIATE REGRESSION CASES

Case Number	Total[1] Salary	Opportunity for Advancement NPF 01[2]	Job Challenge NPF 04	Work Autonomy NPF 07	Adequate Authority NPF 08	Recognition of Work NPF 15	Mentally Demanding Work NPF 16	Emotionally Demanding Work NPF 17	Physically Demanding Work NPF 18	Manual Dexterity Required NPF 19
03001	31,980	1	1	1	1	1	1	0	0	1
03002	16,970	1	1	0	1	1	1	0	0	1
03003	20,418	0	1	0	0	1	1	1	0	0
03004	17,306	1	0	1	1	1	1	0	0	0
03005	16,605	1	1	1	1	1	1	0	0	0
03006	27,675	1	1	1	1	0	1	0	0	0
03007	14,760	1	1	1	1	1	1	0	1	1
03008	16,728	1	0	1	1	1	1	0	0	1
03009	14,145	1	1	1	1	0	0	0	1	0
04001	12,520	1	0	1	1	1	1	1	1	1
04002	17,722	1	0	1	1	1	1	1	0	1
04003	16,359	0	0	1	1	1	0	0	0	1
04004	11,991	1	1	1	1	1	1	0	0	1
04005	17,416	1	1	0	1	1	1	1	0	1
04006	34,743	1	1	1	1	1	1	0	0	0
04007	18,751	1	1	0	1	1	1	1	0	1
04008	15,218	1	1	1	0	1	1	1	1	1
04009	16,359	1	1	1	1	1	1	0	0	0

[1] Includes fringe benefits.

[2] Nonpecuniary Factor (NPF) values: 1 = present, 0 = absent.

necessitated some differences in data analysis procedures. The primary difference was that the respondents could not be partitioned into the subpopulations envisioned for the survey, i.e., by firm characteristics (firm size, firm location, union or nonunion), by occupation, and by salary range.[1] To obtain maximum utility from the data available, the data in Table 4.3 was treated as if it represented a single subpopulation. The cases with the three highest salaries were deleted as outliers (a different subpopulation) so that the regression results represents a subpopulation of employees with a salary range of $11,900-$20,500.

The result of the multivariate regression analysis of pretest data are detailed in Table 4.4. The regression appears to explain 71% of the variation observed in salary (R^2) with a standard error of 1482 and a mean salary of $16,205. In these respects, the regression results are highly presentable relative to typical social sciences applications. Moreover, it is gratifying that all coefficients associated with what are perceived to be nonpecuniary benefits are negative, i.e., are offset by reductions in pecuniary compensation. In other words, an employee earning $22,248.00 annually (the constant) could be paid $2,806.00 less if he/she had more autonomy. Limited sample size does make itself apparent, however, in that some individual independent variables have larger than desirable standard errors and can only be said to be significant at about the 80% confidence level. The nonpecuniary factors from Table 4.3 which are not included in Table 4.4 were omitted because they were not significant.

The results of the pretest sample, although small, demonstrate clearly that using the random sample data collection design together with multivariate regression analysis should enable the establishment of monetary values for selected nonpecuniary factors.

[1]Civil Service grade counterpart.

TABLE 4.4

MULTIPLE REGRESSION - NONPECUNIARY BENEFITS

Nonpecuniary Factor	Coefficient (a_i)	Standard Error	F
Work Autonomy	-2806.00	1172.45	5.728
Physically Demanding Work	-1746.20*	1063.65	2.695
Adequate Authority	-1882.40	1244.47	2.288
Manual Dexterity Required	-1354.20	897.22	2.278
Job Challenge	-1476.80	1006.32	2.154
(constant)	22,248.00		

Coefficient of Determination (R^2) = .712.

Adjusted R^2 = 0.55245.

Standard Error of the Regression = 1481.71.

Mean of Dependent Variable = 16,205.87.

*Reflects an absence of physically demanding work.

SECTION 5

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

- The random sample survey research design and the multivariate regression analysis plan developed during the pilot project will satisfy the ultimate objective of demonstrating the feasibility of monetizing selected nonpecuniary factors for consideration in the Federal pay comparability process. The pilot project is not, however, expected to yield data sufficently definitive that it can be incorporated in the comparability process without further analysis.
- The survey pretest demonstrated the effectiveness of the survey instruments, the data collection and the data analysis plans as tools for accomplishing the survey objective.
- The cooperation of private firms can be obtained in the requisite numbers to support the survey as designed.
- A private sector survey, as designed in this pilot project, can be an effective test of the feasibility of incorporating nonpecuniary factors in the BLS PATC survey process for future potential use in establishing US Civil Service wage schedules on a "total" comparability basis. The results of survey analysis can be used as "estimating equations" to adjust PATC survey averages to account for the presence or absence of specific nonpecuniary benefits within the Federal sector. Before this can be done, however, a similar Federal sector survey would be required in order both to ascertain presence or absence of nonpecuniary factors as well as to make some quantitative assessment of their comparability to benefits found in the private sector.

RECOMMENDATIONS

GRC recommends that:

- This report be approved as the basis for conducting a survey of the private sector to demonstrate the feasibility of monetizing selected nonpecuniary factors for consideration in the Federal pay comparability process.
- The proposed survey be initiated in FY80.
- Contingent on the satisfactory outcome of the private sector survey, a similar survey be initiated within the Federal sector.

APPENDIX A

NONPECUNIARY FACTORS IDENTIFICATION
ESSENTIAL ELEMENTS OF INFORMATION (EEI)

APPENDIX A

NONPECUNIARY FACTORS IDENTIFICATION
ESSENTIAL ELEMENTS OF INFORMATION (EEI)

Nonpecuniary Factor	EEI
Opportunity for Advancement	Promote from within policy Career ladders Employee career counseling program Promotions based on ability Regular promotions
Training for Advancement	In-house training Off-the-job training Tuition-aid program
Job Security	Tenure Turnover rate Length of queue Quit rate Stabilized workforce Pride in longevity
Sense of Challenge	Interesting work Opportunity to develop and use one's special abilities Results of work evident Opportunity to solve hard problems
Self-Development	Realization of one's potential Opportunity to use one's unique capabilities Opportunity for personal growth and development Chance to show initiative
Meaningful and Worthwhile Work	Work is respected Work is useful Company's reputation with the public Company's reputation with its customers
Work Autonomy	Ability to control hours (including overtime) Ability to function independently Flexibility of work schedule and pace Opportunity to participate in determining methods and procedures

NONPECUNIARY FACTORS IDENTIFICATION
ESSENTIAL ELEMENTS OF INFORMATION (EEI) (Cont.)

Nonpecuniary Factor	EEI
Hours of Work	Normal hours Flexitime Shift work Staggered hours
Adequate Authority to Do the Job	Clearly defined responsibilities Supportive Superiors
Adequate Resources to Do the Job	Adequate help and equipment Adequate job information Competent and helpful co-workers Competent and helpful supervisor Enough time to get job done
Working Conditions (Physical Comfort)	Cleanliness Temperature (year round) Lighting Length of lunch period Music on the job Adequacy of work space (cramped, etc.) Noise level Types and conditions of tools and equipment Physical conditions of recreation rooms, lunch rooms, washrooms, locker rooms, and other personal facilities Health and safety characteristics of the job
Nature of Supervision	Supervisor's temperament and personality Quality of supervision (tactfulness, fairness, timely and adequate guidance, employees know where they stand) Characteristics of grievance procedures Contact with executives Training of supervisors and foremen Training of executives
Relations with Co-Workers	Friendly and helpful co-workers Opportunity to make friends Industrious and responsible co-workers

NONPECUNIARY FACTORS IDENTIFICATION
ESSENTIAL ELEMENTS OF INFORMATION (EEI) (Cont.)

Nonpecuniary Factor	EEI
Type of Work	Physically demanding Mentally demanding Physically and mentally demanding Requires manual dexterity Psychologically stressful Emotionally stressful Simple Complex
Recognition of Work	Achievement award program Incentive award program Recognition in company news organs (bulletins, newsletters, etc.)

APPENDIX B

INFORMATION TO BE COLLECTED FROM COMPANY MANAGEMENT

APPENDIX B

INFORMATION TO BE COLLECTED FROM COMPANY MANAGEMENT

SECTION I - BACKGROUND DATA

1. Firm's ID No. ______________________________ ☐☐ (3-4)

2. Address ______________________________

____

3. Firm's Location: 1. Urban __ 2. Suburban __ 3. Rural __ ☐ (5)

4. Name and telephone number of point of contact (POC) for survey

____

5. Firm's SIC codes: ______________________________ ☐☐☐☐ (6-9)

____

SECTION II - COMPANY BENEFITS DATA

Please provide the following information regarding employee fringe benefits provided by your company.

Type Benefit Provided	Paid By (Check One) 1. Employer	2. Employee	3. Both	Average Annual Cost To Company Per Employee (% of Payroll)
7. Group life & accident insurance (10)				(11-12)
8. Sickness and disability income (13)				(14-15)
9. Health care (16)				(17-18)
10. Pension plan (19)				(20-21)
11. Holidays (Days per yr. ___) (22)				(23-24)

Type Benefit Provided	Paid By (Check One) Employer 1.	Employee 2.	Both 3.	Average Annual Cost To Company Per Employee (% of Payroll)
12. Paid vacations (days per yr. __) (25)				(26-27)
13. Other benefits (Describe under Question 15) a. ____ (28)				(29-30)
b. ____ (31)				(32-33)
14. Average cost per employee of total benefit package (In percent of payroll)				(34-35)

15. What are the major features of the following fringe benefits provided by your company?

a. Group life & accident insurance

b. Sickness and disability income

c. Health care

d. Pension plan

e. Holidays

f. Paid vacations

Other benefits:

g. __________

h. __________

16. Are the same benefits provided to all employees? 1. Yes 2. No (36)

If not, please specify differences.

SECTION III - EMPLOYEE DATA

17. Total number of employees: ______________________________

a. Entire company______________________________ (37-42)

b. Plant/Office surveyed______________________________ (43-47)

18. Number of employees in the following occupations:

Occupation	Plant/Office Surveyed	Entire Company
a. Accountant	____________(48-52)	____________(53-57)
b. Auditor	____________(58-62)	____________(63-67)
c. Engineering Technician	____________(68-72)	____________(73-77)
CARD 2 REPEAT COL. 1-9		
d. Computer Operator	____________(10-14)	____________(15-19)
e. Director of Personnel	____________(20-24)	____________(25-29)
f. Job Analyst	____________(30-34)	____________(35-39)
g. Secretary	____________(40-44)	____________(45-49)
h. File Clerk	____________(50-54)	____________(55-59)

19. Are any of the above listed occupations covered by collective bargaining agreements? 1. Yes 2. No (60)
If so, which occupations?

20. Please provide salary information as indicated for the following occupations:

Occupation	Salary Range or	Average Salary	Average Paid Hours Per Week
a. Accountant		(61-65)	(66-70)
b. Auditor		(71-75)	(76-80)

CARD 3 REPEAT COL. 1-9

c. Engineering Technician		(10-14)	(15-19)
d. Computer Operator		(20-24)	(25-29)
e. Director of Personnel		(30-34)	(35-39)
f. Job Analyst		(40-44)	(45-49)
g. Secretary		(50-54)	(55-59)
h. File Clerk		(60-64)	(65-69)

21. What is the company practice regarding hours of work?

a. Normal hours 1. Yes 2. No (70)

b. Flexitime 1. Yes 2. No (71)

c. Shift work 1. Yes 2. No (72)

d. Staggered hours 1. Yes 2. No (73)

22. What is the length of the official lunch period? 1. 30 minutes

2. 60 minutes 3. Other (74)

CARD 4 REPEAT COL. 1-9

23. What is the company annual turnover rate by occupation?

Occupation	Annual Turnover Rate (%)
a. Accountant	________________(10-11)
b. Auditor	________________(12-13)
c. Engineering Technician	________________(14-15)
d. Computer Operator	________________(16-17)
e. Director of Personnel	________________(18-19)
f. Job Analyst	________________(20-21)
g. Secretary	________________(22-23)
h. File Clerk	________________(24-25)

24. What is the company annual quit rate by occupation?

Occupation	Annual Quit Rate (%)
a. Accountant	________________(26-27)
b. Auditor	________________(28-29)
c. Engineering Technician	________________(30-31)
d. Computer Operator	________________(32-33)
e. Director of Personnel	________________(34-35)
f. Job Analyst	________________(36-37)
g. Secretary	________________(38-39)
h. File Clerk	________________(40-41)

25. What percent of employees are laid off per week by occupation?

Occupation	Weekly Layoff (%)
a. Accountant	________________(42-43)
b. Auditor	________________(44-45)
c. Engineering Technician	________________(46-47)
d. Computer Operator	________________(48-49)

25. continued.

Occupation	Weekly Layoff (%)	
e. Director of Personnel	________	(50-51)
f. Job Analyst	________	(52-53)
g. Secretary	________	(54-55)
h. File Clerk	________	(56-57)

26. When a vacancy occurs in one of the following occupations, are there many qualified people ready and eager to get it, very few, or what?

Occupation	1 Many	2 Very Few	3 Other (Specify)
a. Accountant (58)			
b. Auditor (59)			
c. Engineering Technician (60)			
d. Computer Operator (61)			
e. Director of Personnel (62)			
f. Job Analyst (63)			
g. Secretary (64)			
h. File Clerk (65)			

27. Does the company have and follow a promote from within policy?

1. Yes 2. No ______________________________ (66)

28. What percentage of top management officials were promoted from within the company? ______________________________ (67-68)

29. Is an employee career counseling program in effect? 1. Yes 2. No (69)

30. Are career ladders established? 1. Yes 2. No ____________ (70)

If so, are employees informed? 1. Yes 2. No ____________ (71)

31. Does the company conduct in-house training programs for the following positions?

Position	1. Yes 2. No
a. Accountant	______ (72)
b. Auditor	______ (73)
c. Engineering Technician	______ (74)
d. Computer Operator	______ (75)
e. Director of Personnel	______ (76)
f. Job Analyst	______ (77)
g. Secretary	______ (78)
h. File Clerk	______ (79)

CARD 5 REPEAT COL. 1-9

32. Are employees provided off-the-job training at company expense?

1. Yes 2. No ______ (10)

33. Does the company have a tuition-aid program to assist employee career development? 1. Yes 2. No ______ (11)

34. Does the company have an incentive award program? 1. Yes 2. No (12)

35. Does the company have an achievement award program? 1. Yes 2. No (13)

36. How many years of education and experience are required for new hires in the following occupations?

	Prerequisites	
Occupation	Years of Education	Years of Experience
a. Accountant	(14-15)	(16-17)
b. Auditor	(18-19)	(20-21)
c. Engineering Technician	(22-23)	(24-25)
d. Computer Operator	(26-27)	(28-29)
e. Director of Personnel	(30-31)	(32-33)

36. continued

Occupation	Prerequisites: Years of Education	Prerequisites: Years of Experience
f. Job Analyst	(34-35)	(36-37)
g. Secretary	(38-39)	(40-41)
h. File Clerk	(42-43)	(44-45)

37. What is condition of personal facilities? (Complete following from personal observations.)

Type Facility	Available 1.Yes 2.No	Clean 1.Yes 2.No	Good Condition 1.Yes 2.No	
Lunch Room	______	______	______	(46-48)
Recreation Room	______	______	______	(49-51)
Restrooms	______	______	______	(52-54)
Locker Rooms	______	______	______	(55-57)
Reading Room	______	______	______	(58-60)
Meditation Room	______	______	______	(61-63)
Other (specify)				
______	______	______	______	(64-66)

APPENDIX C

ON-THE-JOB OBSERVATION AND INTERVIEW MATERIALS INCLUDING OBSERVER INSTRUCTIONS AND REPORTING FORMS

OBSERVATION INSTRUCTIONS

The observation period will take one and one-half hours and will be followed by approximately 15 minutes of editing. The period is divided into three parts:

1.	Familiarization observations	10 min.	
2.	General observations	50 min.	
3.	Employee interview	30 min.	(First observation only)

The observation period will start after you introduce yourself to the person who is to be observed.

INTRODUCTION

Points to be covered in introduction if this is the employee's first observation.

1. Your name.

2. The fact that you are part of the GRC team working on the study at the worker's place of employment.

3. A reminder to the employee that this is the first of the two periods of on-the-job observation that will take place.

4. That everything is confidential and that no information identifying individuals will be seen by the worker's employer.

5. That you will be watching the type of work the employee does for about an hour and also looking at the physical surroundings. That at the end of the observation period you have a few questions to ask him/her.

6. That the employee should go on doing whatever he/she was doing when you entered. That this is not a time and motion study nor are you interested in the employee's productivity.

7. That you don't expect anyone to be working all the time so if the employee is due for a break, wants to make a phone call or talk to the people he/she works with, he/she should go ahead and do so. In short, he/she should regard you as part of the furniture.

8. That after about ten minutes or so you may be asking the employee some questions about what he/she is doing so you can understand better what is going on.

If this is the employee's second observation, the introduction may be briefer. Acquaint the employee with who you are and why you are there.

Tell him/her that you will be doing exactly what the previous observer did except there will be no second interview. Reemphasize the confidential nature of the observation. Reiterate points 6 and 7 from the Introduction above.

In describing this study to the person to be observed, do not use the study name. Call the study "the General Research Corporation study of conditions of work."

Familiarization Observations--10 min.

During the first 10 minutes of observation, observe the job to get some understanding of what is going on. Toward the end of the period you may ask the person being observed questions to clarify the nature of what he/she is doing, the location of materials he/she works with, who his/her supervisor is, etc. After you have asked your questions begin the period of specific observations.

During the entire observation period try to be as unobtrusive as possible. One problem you may run into is that the person being observed goes somewhere that he or she does not want you to follow (i.e., into the bathroom, or to have an evaluation session with their supervisor). If you are asked not to follow, please do not. However, the time which you are not observing should not be considered as part of the observation period: the observation period should be extended for that length of time.

Another problem is that being unobtrusive may mean reducing the ease with which you can view the job. In this case you will have to find a place which balances the degree to which you are an obstruction to work, against the accuracy of your observations. However, if you have to make a choice stay out of the way, even if it means that you cannot observe as well. It may be that the person being observed can help you find a place which is out of the way, but where you can see the job.

General Observations--50 min.

During this period you are to observe the person's job carefully. Using the work sheets provided to describe the person's job, and the interactions which occur during the observation period. Try to answer every question. Do not forget to record the starting and ending times of the observation period in Section I.

During this period you are to continue observing the job to develop your impression of it. During this period fill out the scales in Section II of the Observation rating booklet.

Employee Interview

When the general observation period is over, proceed immediately to the interview period using Appendix D, Employee Interviews.

Ending the Observation/Interview Period

When the period of observation and interview is over, let the person being observed know that you are leaving, and thank him/her. At this time ask the person if the job you have observed is typical of the job which he/she usually does. You will need this information to complete Section III at the back of the observation rating booklet.

Editing

Please go through the booklet and be sure that all of the responses are clearly marked, and that all the questions which you have not answered are appropriately coded.

Also be sure the employee number and other information are properly coded in Section I of the booklet, and that the cover sheet is filled out.

ON-THE-JOB OBSERVATION BOOKLET

SECTION I - INTRODUCTION

Firm ID No. ______ (3-4)

Employee ID No. _______________ (5-9)

Occupation Code _____________________________ (10-11)

Observer Number _____ (12)

Observation No. 1. First 2. Second (Circle one) (13)

Starting time of observation period	__________	AM PM	Ending time of observation period	_________	AM PM

1. Introduction to employee
   A. Your name and GRC affiliation
   B. What the study is
   C. First or second interview
   D. Confidentiality and anonymity
   E. What you will be doing
   F. Employee should continue with normal behavior
   G. Possible interruption after 10 minutes
2. Familiarization observations--10 minutes
3. Clarification questions (if necessary)
4. General observations using General Observation Work Sheets to record actions and interactions--50 minutes
5. Employee interview using Appendix D, Employee Interviews
6. Determining "typicality" of observation session

SECTION II - OBSERVED EMPLOYEE'S WORKING CONDITIONS

1. For each health or safety hazard listed below, check indicating

   (a) whether the condition was absent or present, and (b) if present, how great a problem you think it is for the employee.

	ABSENT	PRESENT--but virtually "no problem at all"	PRESENT--a slight problem	PRESENT--a sizeable problem	PRESENT--a great problem	
a. Having to do physical tasks that exceed what appears comfortable for the employee: lifting very heavy objects; extraordinarily rapid motion	1	2	3	4	5	(14)
b. Inadequate human or machine help in performing physical activities, such as lifting, moving, etc.	1	2	3	4	5	(15)
c. Slippery floors or footing: due to disrepair, grease, oil, water, excessive waxing, torn carpeting, worn stair-treads, etc.	1	2	3	4	5	(16)
d. Excessive noise	1	2	3	4	5	(17)
e. Extremes of temperature or humidity; too hot, too cold; drafty; too dry; too stuffy	1	2	3	4	5	(18)
f. Inadequate space: inadequate aisle space, exits, clearance for moving objects or persons; overcrowding	1	2	3	4	5	(19)
g. Placement hazards: things badly piled or placed; materials inadequately insured against shifting or falling	1	2	3	4	5	(20)

2. Check the column for each description of the employee's job that indicates how true it is.

	VERY UNTRUE	MOSTLY UNTRUE	SLIGHTLY UNTRUE	SLIGHTLY TRUE	MOSTLY TRUE	VERY TRUE	
a. His/her work area is clean	1	2	3	4	5	6	(21)
b. He/she is frequently interrupted for work-related reasons	1	2	3	4	5	6	(22)
c. He/she is frequently interrupted for non-work related reasons	1	2	3	4	5	6	(23)
d. He/she is given adequate lighting for his/her particular job	1	2	3	4	5	6	(24)
e. He/she has adequate access to machinery, tools or other equipment	1	2	3	4	5	6	(25)
f. He/she has enough time to do what he/she is expected to do	1	2	3	4	5	6	(26)
g. His/her job exposes him/her to dangerous or unhealthy conditions	1	2	3	4	5	6	(27)

IN QUESTIONS 3-15 AND 17-18 CIRCLE THE BOX ON EACH LINE THAT BEST DESCRIBES THE JOB IN TERMS OF THE THREE "ANCHOR" STATEMENTS BELOW THE BOXES

3. How much autonomy is there in the job?

1 2 3 4 5 6 7 (28)

Very little; the individual has almost no "say" about scheduling the work or about procedures to be used in doing it	Moderate autonomy; the individual can make some of the decisions about how the work is done, but many work-related decisions and procedures are not under his/her control	Very much; the individual has almost complete responsibility for scheduling the work and for determining the procedures which are used in doing

4. To what extent does the employee find out how well he/she is doing on the job from his/her supervisor or co-workers?

1 2 3 4 5 6 7 (29)

Very little; the individual may often work for long stretches without anyone letting him/her know how he/she is doing	Moderate; sometimes people may let the individual know how he/she is doing, sometimes they may not	Very much; the individual gets almost constant "feedback" on his/her performance from a supervisor or from co-workers

5. How adequate are the resources available to the employee for him/her to do the job well?

1 2 3 4 5 6 7 (30)

Very inadequate; individual does not have enough tools, information, or help in order to perform the job well	Adequate	More than adequate; individual has all of the tools, information, and skills at his/her disposal to do the job well

6. How comfortable is the physical work environment?

1 2 3 4 5 6 7 (31)

Very uncomfortable; work environment is unpleasant, dirty, noisy, and/or dangerous	Moderately comfortable	Very comfortable; work environment is extremely pleasant, clean, safe and not too noisy

7. To what extent does the job require the use of sophisticated or complex skills?

1 2 3 4 5 6 7 (32)

Very little; no skills are required that the average person would not already have	Moderate; some skills are required but they would not be difficult for the average person to obtain in a short time	Very much; highly complex or sophisticated skills are needed to do the job

8. How much control does the employee have in setting the pace of his/her work?

1 2 3 4 5 6 7 (33)

Very little; pace is predetermined and individual must work at a strict pace set by someone or something other than himself/herself	Moderate control of work pace	Very much; the individual determines his/her own work pace

9. To what extent do other people make conflicting demands/requests of employee?

1	2	3	4	5	6	7	(34)
Very little; people make demands/requests of him/her which do not conflict; people never make demands/requests			To some extent			Very great; the individual has to cope with conflicting demands/requests made by many people	

10. To what extent does the individual depend on his/her colleagues for doing his/her job?

1	2	3	4	5	6	7	(35)
Very little; the individual does not receive any services, materials, half products, etc. from others in order to do his/her job			Moderate; sometimes individual depends on others			Very much; the individual is continuously dependent on others; his/her performance cannot be accomplished without the contributions, services half products, etc., from his/her colleagues	

11. How intellectually demanding is the job?

1	2	3	4	5	6	7	(36)
Very little; the job is very routine and does not require any mental effort			Moderate			Very much; the job is very non-routine and involves a lot of "thinking-through" or problem solving	

12. To what degree does the employee have to cooperate directly with other people in order to do his/her job?

1 2 3 4 5 6 7 (37)

1	4	7
Not at all; the individual can do the job himself/herself and does not need the help of anyone else	Moderately; he/she needs a little aid from others, or he/she can do his/her job better with help, but he/she does much of the work himself/herself	Completely; the individual can not do any part of his/her job without the aid of other people; he/she must cooperate directly with others in order to do his/her job

13. To what degree does the employee have to depend on the work performed by someone else in order to get the materials or information he/she needs to do his/her work?

1 2 3 4 5 6 7 (38)

1	4	7
Not at all; he/she can get everything he/she needs to do his/her job without waiting for others to complete their work	Moderately; some of his/her materials or information come from the work of other people, but he/she always has something he/she can do if they are not finished	Completely; all of the important materials or information he/she uses to do his/her job are the output of someone else's job. He/she can't do his/her job until someone else finishes his or her job

14. Does the employee belong to an identifiable work group?

1 Yes	2 No
FILL OUT 17-18	CHECK THE "0" -INAPPROPRIATE BOXES IN 17-18

15. How friendly toward the employee observed are other members of the work group?

1	2	3	4	5	6	7	0	(39)
Not at all friendly; cold, aloof, matter-of-fact, unresponsive			Moderately friendly			Very friendly; they make many supportive statements, joke with the employee, or make other shows of friendliness	INAPPROPRIATE	

16. How helpful toward the employee observed are other members of the work group?

1	2	3	4	5	6	7	0	(40)
not at all; they let the individual shift for himself/herself; they refuse to do something that would help the employee			Moderately helpful			Very helpful; they ask the individual if he/she needs something; they seem eager to help	INAPPROPRIATE	

17. Check the column that indicates whether or not any of the following was absent or present at the location where the employee usually works.

	ABSENT	PRESENT	
a. Windows out of which he or she could look	1	2	(41)
b. Drapes on the windows (If there were no windows, check "absent.")	1	2	(42)
c. Carpeting	1	2	(43)
d. Framed pictures (Do not include framed diplomas, citations, or certificates)	1	2	(44)
e. Posters, printed mottoes, or cartoons--do not include those obviously printed or supplied by the individual's employer	1	2	(45)
f. A living plant or flower	1	2	(46)
g. An artificial or preserved plant or flower	1	2	(47)

18. Check the one box that best describes any interaction observed between the employee and his/her supervisor.

1 No interaction	2 Exclusively non-job-related interaction	3 Both job and non-job-related interaction	4 Exclusively job-related interaction	(48)
CHECK THE "O"-INAPPROPRIATE BOXES IN 21-23		FILL OUT 21-23 WITH REFERENCE TO JOB-RELATED INTERACTIONS ONLY		

19. When the supervisor initiated a job-related interaction, how did he/she do it? (49)

1 The supervisor asked the employee to do something in such a way that the employee could have refused without fear of reprisal

2 The supervisor asked the employee to do something which the employee could not easily refuse

3 The supervisor told the employee to do something; it was clear that the individual had no choice but to comply

0 INAPPROPRIATE

20. How specific was the supervisors' initiation of the job-related interaction? (50)

1 The supervisor left the procedures to be used to execute the request up to the subordinate

2 The supervisor left some of the decision about executing the request up to the subordinate

3 The supervisor clearly specified the procedures the individual was to employ to execute the request

0 INAPPROPRIATE

21. When the supervisor asked the employee a job-related question, what appeared to be the supervisor's intent? (51)

1 The supervisor wanted to know if he/she could be of assistance to the employee in performing his/her job; he/she was interested in helping the employee if he/she could

2 The supervisor was only moderately interested in helping the employee if he/she could

3 The supervisor was only interested in finding out if the employee was performing his/her job; he/she was not interested in being of assistance; he/she was merely "checking up" on the employee's progress and performance

4 The supervisor asked no job-related question

0 INAPPROPRIATE

SECTION III - ADMINISTRATIVE INFORMATION

1. Was the observation completed? (52)

1 Yes 2 No

RETURN BOOKLET AND COVER SHEET
TO OFFICE AND EXPLAIN BELOW.

Reason for incompleted observation: ______________________

____

____

____

2. How confident are you of the accuracy of your ratings of this job? (53)

1	2	3	4
Not at all confident; I was not at all able to rate the job I observed accurately	Somewhat confident; my ratings are only partially descriptive of the job I observed	Moderately confident; my ratings provide a fairly accurate description of the job I observed	Very confident; my ratings accurately describe the job I observed

3. How typical was the job you observed of the work which is normally done by the person being observed?

1	2	3	(54)
Not at all typical; he/she usually does a very different type of work	Somewhat typical; he/she often does similar work, but this observation period did not completely cover his/her job	Very typical; he/she usually does work of the type observed	

INTERVIEWER COMMENTS:

APPENDIX D

EMPLOYEE INTERVIEW GUIDES

APPENDIX D

EMPLOYEES INTERVIEWS

SECTION I - BACKGROUND DATA

1. Employee ID No. ______________________ (3-7)

2. Occupation: ______________________ (8-9)

3. Job Title: ______________________ (10-11)

*4. Age: ______ (12-13) 5. Sex ___ (14) *6. Number of years in present Occupation: ________ (15-16)

*7. Salary: ____________ a. hourly b. weekly (x52) c. bi-weekly (x26) d. monthly (x12) e. bi-monthly (x24) f. annually (x1) ______________________ (22)

8. Firm's ID No. ______________________ (23-24)

9. Education Level: _______________ (25-26)

10. Marital Status: 1. Married 2. Single 3. Divorced 4. Separated 5. Widowed 6. Other ___________ (27)

11. No. of Dependents ________________ (28-29)

*Obtain from Personnel Office in Advance, if Possible.

SECTION II - NONPECUNIARY FACTORS IDENTIFICATION

INSTRUCTIONS

Interviewer: I am going to read you a series of statements about your work. You are to consider them carefully and tell me how much you agree or disagree with each statement. You have five choices to select from: Strongly Agree, Agree, Disagree, Strongly Disagree, and Don't Know. It is important that you give me your honest opinion concerning each statement.

Opportunity for Advancement

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
1. Most promotions in my company are made from among employees within the company (30).	4	3	2	1	0
2. Based upon my current qualifications (training and experience), I know:					
a. What positions in the company I can reasonably expect to be promoted into (31)	4	3	2	1	0
b. What additional qualification I will need to acquire for these promotions (32).	4	3	2	1	0
3. There is an employee career counseling program in operation in my company (33)	4	3	2	1	0
4. Promotions are made with a reasonable amount of regularity in my company (34).	4	3	2	1	0

Training for Advancement

5. Employees in my company are provided the training they need for advancment (35).	4	3	2	1	0

Job Security

6. Most employees remain with my company until they are eligible for retirement (36)	4	3	2	1	0
7. We take pride in the longevity of our senior employees (37)	4	3	2	1	0
8. The job security is good (38).	4	3	2	1	0

Sense of Challenge

9. My work is interesting (39).	4	3	2	1	0
10. I can see the results of my work (40).	4	3	2	1	0
11. I have an opportunity to develop my special abilities (41)	4	3	2	1	0
12. I have an opportunity to use my special abilities (42).	4	3	2	1	0

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
13. The problems I am asked to solve are hard enough (43). .	4	3	2	1	0
14. I am given a chance to do the things I do best (44). . .	4	3	2	1	0
<u>Self-Development</u>					
15. My job requires that I keep learning new things (45) . .	4	3	2	1	0
16. I get to do a number of different things on my job (46).	4	3	2	1	0
17. My job lets me use my skills and abilities (47).	4	3	2	1	0
18. I enjoy taking responsibility in my job (48)	4	3	2	1	0
<u>Meaningful and Worthwhile Work</u>					
19. My work is respected by my supervisor (49)	4	3	2	1	0
20. My work is respected by my co-workers (50)	4	3	2	1	0
21. My work is useful to my company (51)	4	3	2	1	0
22. My work is meaningful to me (52)	4	3	2	1	0
23. My company has a good reputation with the general public (53).	4	3	2	1	0
24. My company has a good reputation with its customers (54)	4	3	2	1	0
<u>Work Autonomy</u>					
25. I make the final judgment as to whether or not I work overtime (55)	4	3	2	1	0
26. I am able to take time off from work to take care of important personal matters as easily as anyone else (56)	4	3	2	1	0
27. I am consulted when changes in methods or procedures involving my job are considered (57)	4	3	2	1	0

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
28. I can perform my job relatively independent of others (58)	4	3	2	1	0

Adequate Authority to do the Job

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
29. My responsibilities are clearly defined to me (59)	4	3	2	1	0
30. My responsibilities are clearly defined to my co-workers (60)	4	3	2	1	0
31. I have enough authority to do my job (61)	4	3	2	1	0
32. I am given a lot of freedom to decide how I do my work (62)	4	3	2	1	0

Adequate Resources to Do the Job

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
33. I receive enough help and equipment to get the job done (63)	4	3	2	1	0
34. I receive enough equipment to get the job done (64)	4	3	2	1	0
35. I have enough information to get the job done (65)	4	3	2	1	0
36. My co-workers are competent (66)	4	3	2	1	0
37. My co-workers are helpful (67)	4	3	2	1	0
38. My supervisor is competent in doing his or her job (68)	4	3	2	1	0
39. My supervisor is helpful to me in getting my job done (69)	4	3	2	1	0
40. I have enough time to get the job done (70)	4	3	2	1	0

Working Conditions (Physical Comfort)

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
41. My physical surroundings are clean (71)	4	3	2	1	0

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
42. My physical surroundings are pleasant (72)	4	3	2	1	0
43. I have adequate work space (73)	4	3	2	1	0
44. I am not bothered by health and safety matters in getting my job done (74)	4	3	2	1	0

Nature of Supervision

45. My supervisor always makes sure that I know what has to be done (75)	4	3	2	1	0
46. My supervisor is friendly (76)	4	3	2	1	0
47. My supervisor usually lets me know when I do my job well (77)	4	3	2	1	0
48. I am closely supervised (78)	4	3	2	1	0
49. My supervisor is very concerned about the welfare of those under him/her (79)	4	3	2	1	0

CARD 2 REPEAT Col. 2-7

Relations with Co-Workers

50. My co-workers are friendly (8)	4	3	2	1	0
51. I have a lot of opportunity to make friends (9)	4	3	2	1	0
52. My co-workers are industrious (10)	4	3	2	1	0
53. My co-workers are responsible (11)	4	3	2	1	0

Type of Work

54. My work is mentally demanding (12)	4	3	2	1	0
55. My work is physically demanding (13)	4	3	2	1	0

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
56. My work is emotionally stressful (14)	4	3	2	1	0
57. My work requires manual dexterity (15)	4	3	2	1	0

Hours of Work

58. The hours are good (16).	4	3	2	1	0

Recognition of Work

59. Superior work receives recognition in my company (17).	4	3	2	1	0

INTERVIEWER COMMENTS:

APPENDIX E

IDENTIFICATION CODES

IDENTIFICATION CODES

Firm ID Codes (Illustrative)

01 - The Muppet Company

02 - Toonerville Trolley, Inc.

17 - MPG Motor Company

25 - Desert National Bank

Employee ID Codes (Illustrative)

01001 - Employee No. 1, The Muppet Company

17009 - Employee No. 9, MPG Motor Company

25001 - Employee No. 1, Desert National Bank

Occupation Codes

01 - Accountants

02 - Auditors

03 - Chief Accountants

04 - Attorneys

05 - Buyers

06 - Job Analysts

07 - Directors of Personnel

08 - Chemists

09 - Engineers

10 - Engineering Technicians

11 - Drafters

12 - Computer Operators

13 - Accounting Clerks

14 - File Clerks

15 - Key Entry Operators

16 - Messengers

17 - Secretaries

18 - Stenographers

19 - Typists

Observer Codes (Illustrative)

1 - Fitzpatrick

2 - Harrison

3 - Schiff

EDUCATION LEVEL (2 digits)

Codes and Representations:

CODE	NAME	DEFINITION/EXPLANATION
00	Not Applicable	
01	Some Elementary School - Did Not Complete	Elementary school means grades 1 through 8 or equivalents.
02	Elementary School Completed - No High School	Grade 8 or equivalent completed.
03	Some High School - Did Not Graduate	High school means grades 9 through 12 or equivalents.
04	High School Graduate or Certificate of Equivalency	
05	Terminal Occupational Program - Did Not Complete	Program extending beyond grade 12, usually no more than 3 years; designed to prepare students for immediate employment in an occupation or cluster of occupations; not designed as the equivalent of the first two or three years of a baccalaureate degree program. Includes cooperative training or apprenticeship consisting of formal classroom instruction coupled with on-the-job training.
06	Terminal Occupational Program - Certificate of Completion, Diploma or Equivalent	(See above.) Two levels are recognized: (1) the technical and/or semiprofessional level preparing technicians or semi-professional personnel in engineering and nonengineering fields (2) the craftsman/clerical level training artisans, skilled operators, and clerical workers.
07	Some College - Less Than One Year	Less than 30 semester hours or 45 quarter hours completed.
08	1 Year College	30 - 59 semester hours or 45 - 89 quarter hours completed.
09	2 Years College	60 - 89 semester hours or 90 - 134 quarter hours completed.

EDUCATION LEVEL (continued)

CODE	NAME	DEFINITION/EXPLANATION
10	Associate Degree	2-year college degree program completed.
11	3 Years College	90 - 119 semester hours or 135 - 179 quarter hours completed.
12	4 Years College	120 or more semester hours or 180 or more quarter hours completed - no baccalaureate (bachelor's) degree.
13	Bachelor's Degree	Requires completion of at least 4 but no more than 5 years of academic work; includes bachelor's degree conferred in a cooperative plan or program which provides for alternate class attendance and employment in business, industry or government to allow student to combine actual work experience with college studies.
14	Post- Bachelor's	Some work beyond (at a higher level than) the bachelor's degree but no additional higher degree.
15	First Professional Degree	Signifies the completion of academic requirements for selected professions, which are based on programs requiring at least two academic years of previous college work for entrance and a total of at least six academic years of college work for completion, e.g., Dentistry (D.D.S. or D.M.D.), Law (LL.B. or J.D.), Medicine (M.D.), Theology (B.D.), Veterinary Medicine (D.V.M.), Chiropody or Podiatry (D.S.C. or D.P.), Optometry (O.D.), and Osteopathy (D.O.).
16	Post-First Professional	Some work beyond (at a higher level than) the first professional degree but no additional higher degree.
17	Master's Degree	For liberal arts and sciences customarily granted upon successful completion of one (sometimes two) academic years beyond the bachelor's degree. In professional fields, an advanced degree beyond the first professional but below the Ph.D., e.g., the LL.M.; M.S. in surgery following the M.D.; M.S.D., Master of Science in Dentistry; M.S. Master of Social Work.

EDUCATION LEVEL (continued)

CODE	NAME	DEFINITION/EXPLANATION
18	Post-Master's	Some work beyond (at a higher level than) the Master's degree but no additional higher degree.
19	Sixth-Year Degree	i.e., Advanced Certificate in Education, Advanced Master Of Education, Advanced Graduate Certificate, Advanced Specialist in Education Certificate, Certificate of Advanced Graduate Study, Certificate of Advanced Study, Advanced Degree in Education, Specialist in Education, Licentiate in Philosophy, Specialist in Guidance and Counseling, Specialist in Art, Specialist in Science, Specialist in School Administration, Specialist in School Psychology, Licentiate in Sacred Theology.
20	Post-Sixth-Year	Some work beyond (at a higher level than) sixth-year degree but no additional higher degree.
21	Doctorate Degree	Includes such degrees as Doctor of Education, Doctor of Juridical Science, Doctor of Public Health, and the Ph.D. (or equivalent) in any field. Does not include doctor's degrees that are first professional per code 15.
22	Post-Doctorate	Work beyond the doctorate.

APPENDIX F

OMB CLEARANCE REQUEST (SF83)

FOR O.M.B. USE

CLEARANCE REQUEST AND NOTICE OF ACTION

(Under the Federal Reports Act and Office of Management and Budget Circular No A–40, as amended)

IMPORTANT—*READ INSTRUCTIONS BEFORE COMPLETING FORM. Submit the required number of copies of SF–83, together with the material for which approval is requested to:*

CLEARANCE OFFICER
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

PART A—REQUEST BY FEDERAL AGENCY FOR CLEARANCE

*Items marked with asterisk may be omitted for preliminary plans or recordkeeping requirements

1. SEND "NOTICE OF ACTION" TO: *(Name and mailing address)*

2. BUREAU AND DIVISION OR OFFICE ORIGINATING REQUEST

3. NAME(S), TITLE(S), AND TELEPHONE NO(S). OF PERSON(S) WHO CAN BEST ANSWER QUESTIONS REGARDING REQUEST

FORM OR DOCUMENT IDENTIFICATION

4. TITLE OF FORM OR DOCUMENT SUBMITTED

5. AGENCY FORM NUMBER(S)

6. TYPE OF FORM OR DOCUMENT
1 ☐ Application 2 ☐ Program evaluation 3 ☐ Other management report 4 ☐ Statistical survey or report 5 ☐ Record-keeping requirement 6 ☐ Other *Specify*

7. CURRENT (*or former*) OMB CLEARANCE NUMBER
EXPIRATION DATE

8. REQUESTED EXPIRATION DATE

9. TYPE OF REQUEST
1 ☐ New 2 ☐ Revision 3 ☐ Extension (No change) 4 ☐ Reinstatement 5 ☐ Preliminary plan or contract

10. FREQUENCY OF USE
1 ☐ Single time 2 ☐ On occasion 3 ☐ Weekly 4 ☐ Monthly 5 ☐ Quarterly 6 ☐ Semi-annually 7 ☐ Annually 8 ☐ Other *(see instructions)*

11. RELATED FORMS OR DOCUMENTS *(Give OMB Number. Enclose in parentheses any to be replaced.)*

12. CATALOG OF FEDERAL DOMESTIC ASSISTANCE PROGRAM NUMBER

COLLECTION AND RESPONDENTS

*13A. COLLECTION METHOD *(Check as many as apply)*
1 ☐ Mail 2 ☐ Personal interview 3 ☐ Other—*Describe*

*13B. COLLECTED BY—
4 ☐ Agency 5 ☐ Contractor 6 ☐ Other—*Describe*

14A. TYPE OF RESPONDENTS *(Check predominant one)*
1 ☐ Individuals or households 2 ☐ Business firms *(non-farm)* 3 ☐ Farms 4 ☐ Government agencies 5 ☐ Other—*Describe*

14B. BRIEF DESCRIPTION OF RESPONDENTS *(i.e., "households in 50 largest SMSA's;" "retail grocery stores")*

*15A. ESTIMATED NUMBER OF RESPONDENTS

15B. APPROXIMATE NUMBER IN UNIVERSE *(If sample)*

15C. REPORTS FILED ANNUALLY BY EACH RESPONDENT *(Item 10)*

15D. TOTAL ANNUAL RESPONSES *(Item 15A x 15C)*

15E. ESTIMATED AVERAGE NUMBER OF HOURS REQUIRED PER RESPONSE

15F. ESTIMATED TOTAL HOURS OF RESPONDENT BURDEN *(Item 15D x 15E)*

AUTHORITY AND CONFIDENTIALITY

*16A. IS REPORT FORM:
1 ☐ Voluntary? 2 ☐ Required to obtain benefits? 3 ☐ Mandatory?—*Cite statute*

16B. DOES YOUR AGENCY PLEDGE CONFIDENTIALITY?
1 ☐ YES 2 ☐ NO

CONSULTATIONS OUTSIDE AGENCY

17. In developing the report form or other documents, were consultations held with individuals or organizations outside your own agency?
1 ☐ YES—Identify persons and describe outcome in SUPPORTING STATEMENT. *(See instructions)*
2 ☐ NO

CERTIFICATION BY AUTHORIZED OFFICIALS SUBMITTING REQUEST—*We certify that the form or other document submitted for approval is necessary for the proper performance of the agency's functions, that the proposed data collection represents the minimum burden on respondents consistent with the need for information, that the information collected is not available from any other source, to the best of our knowledge, that the collection instrument contains no bidden identifiers, that the request complies with requirements of the Freedom of Information Act and the Privacy Act of 1974, and is consistent with applicable O.M.B. and agency policy directives. Signature and title of:*

APPROVING OFFICIAL FOR AGENCY	DATE	AGENCY CLEARANCE OFFICER OR OTHER AGENCY OFFICIAL	DATE

83–107

STANDARD FORM 83 (Rev. 6–76)
Prescribed by Office of Management and Budget Circular A–40

STANDARD FORM NO. 83

OFFICE OF MANAGEMENT AND BUDGET

CLEARANCE REQUEST AND NOTICE OF ACTION

(Under Federal Reports Act and O.M.B. Circular No. A-40, as amended)

PART B – NOTICE OF OFFICE OF MANAGEMENT AND BUDGET ACTION

In accordance with provisions of the Federal Reports Act and Office of Management and Budget Circular A-40, as amended, the action indicated below has been taken with respect to your request for clearance of the report form or other document indicated in Part A on the reverse side.

1. ☐ **APPROVED**, through ______
The information appearing in the box below must appear in the upper right-hand corner of the report form:

Form Approved
O.M.B. No. ______

At its discretion, the agency may include the expiration date in addition to the required information.

2. ☐ **APPROVED**, under O.M.B. No. ______
The statement in the box below must appear prominently somewhere in the regulation, manual or other document:

The reporting and/or recordkeeping requirements contained herein have been approved by the Office of Management and Budget in accordance with the Federal Reports Act of 1942.

3. ☐ **O.M.B. No.** ______ PC
Approval expires ______
This number is evidence of preliminary approval only. Specific data collection plans and report forms are subject to further review under O.M.B. Circular A-40, as amended, before final approval action can be considered.

NOTE: Please refer to Office of Management and Budget Number in all future correspondence regarding this clearance.

4. ☐ **DISAPPROVED**, or other FINAL action, for the following reasons(s): ______

5. **Remarks:**

6. ACTION APPROVED BY	Name (Signature)	Title	Date

IMPORTANT – If your request for clearance has been APPROVED (i.e. boxes 1, 2, or 3 are checked), the following should be sent to O.M.B. on a post-clearance basis, as soon as available:

One copy of the final PRINTED, (or otherwise reproduced) report form, or reporting or recordkeeping requirement, transmittal letter, instructions, and any other document being sent to each respondent.

FOR O.M.B. USE										
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.

U.S. GOVERNMENT PRINTING OFFICE : 197–O–205-982

STANDARD FORM NO. 83A
OFFICE OF MANAGEMENT
AND BUDGET
83-201

INSTRUCTIONS FOR REQUESTING OMB APPROVAL UNDER THE FEDERAL REPORTS ACT

I. GENERAL INSTRUCTIONS

A. Documents Requiring Approval

Clearance must be obtained for documents requiring approval under the Federal Reports Act. Clearance requests are initiated by admission of Standard Form 83, "Clearance Request and Notice of Action." Documents requiring approval include:

—report forms, application forms, questionnaires, or interview guides for personal visit or telephone surveys.

—orders, regulations or other directives which include requirements for respondents to provide information or maintain records to be used or made available for use in the collection of information (except for imposition of a general duty to maintain such records as may be thereafter prescribed—See Budget Circular A-40, Sec. 2).

—requests for answers to identical questions which are addressed to respondents in the form of telegraphic inquiries, form letters, information circulars and other devices.

—any supplementary documents involved in these reporting requirements, such as instructions or covering letters.

—plans for data collection (see B below).

B. Data Collection Plans in Federally-sponsored Contracts or Other Agreements

An agency which proposes to sponsor the collection of information under a contract or other agreement (see Transmittal Memorandum No. 1, Circular A-40 for definition of sponsorship) must obtain approval of the data collection plan. The document to be submitted for OMB approval and the time of submission will depend upon the agency practice. The document may be a project statement, a copy of the Request for Proposals, or the proposed contract or other agreement. In the case of contracts, if the Request for Proposals prescribes the data collection plan (i.e., the information to be collected and the method of collection) the plan should be submitted for OMB approval prior to issuance of the RFP. If the RFP does not prescribe the plan, or if it allows considerable flexibility, the plan should be submitted prior to the signing of the contract if the plan is described in the contract. If the contract or other agreement leaves to the contractor or grantee the development of the survey plan, a statement should be included in the contract that its completion is subject to approval of the plan by OMB, and plan should be submitted as soon as it is developed. In doubtful cases, form and time of submission should be discussed with OMB reviewer or Clearance Officer.

The agency should include in the contract a reminder that the form(s) or other document(s) used for data collection under the contract are subject to OMB review and approval.

Approval of data collection plans under contracts or other agreements will facilitate the review of the forms or other documents to be developed subsequently, and will avoid the possible embarrassment and expense of OMB disapproval after the contract or other agreement has been signed.

C. Pretests

Pretests must be approved if they call for identical information from ten or more respondents. If the pretest will be used with a substantial number of respondents several weeks before the full-scale survey it should be submitted separately; if not, it may be approved as part of the survey plan in a single submission.

D. Standard and Optional Forms

Primary responsibility for approval of Standard and Optional forms was transferred in June 1967 from the Bureau of the Budget to the National Archives and Records Service of the General Services Administration. OMB must, however, still approve such forms under the Federal Reports Act if they are public use forms, or if they are the basis for statistical compilations of general public interest.

All Standard and Optional forms should be submitted to NARS, using Standard Form 152, "Request for Clearance and Procurement—Standard and Optional Forms." For those forms requiring approval under the Federal Reports Act, three copies of S.F. 83 should also be submitted to NARS. (Part C, Supporting Statement, may be omitted, however.) NARS will then forward these forms, together with the 83's to OMB for appropriate action.

E. Material and Number of Copies to be Submitted

1. Submit in accordance with agency instructions, the original and two copies of S.F. 83 to the Clearance Officer, Office of Management and Budget, Washington, D.C. 20503. (Agencies may, or course, require additional copies of the 83 and other material for internal clearance purposes.) OMB will return one copy indicating in Part B the OMB action.

2. Submit to OMB three copies of a **Supporting Statement** for a new form or other document. For a **revised** edition of an **existing** form or other document currently in use (with an unexpired OMB approval number), or for an **extension (no change)**, three copies of the earlier Supporting Statement may be submitted in lieu of a new statement. If there have been changes in the form, or if the information submitted on the previous S.F. 83 needs correcting, submit an updating supplement explaining the changes (see Part III, Sec. B).

3. Submit also three copies of all documents to be sent to each respondent, including the report form (or reporting or recordkeeping requirement), instructions (or regulations), transmittal letter, and any other related documents.

4. The package of materials submitted for clearance should be assembled as follows: clip the three copies of the S.F. 83 together on top of the package; clip the other documents together in **sets** in reading order (i.e., Supporting Statement, form, transmittal letter or instructions, etc.).

II. COMPLETION OF S.F. 83 "CLEARANCE REQUEST AND NOTICE OF ACTION"

Part A – "Request by Federal Agency for Clearance"

Items 1 and 2. Self-explanatory.

Item 3. The agency may enter here the name of the project manager or program specialist or the agency Clearance Officer familiar with the technical aspects of the survey plan, report form, or other document.

Item 4. Titles used should be brief, but should provide a clear idea of what the survey, report form, or other document is about. Unwieldy titles should be shortened; parenthetical words or phrases may be added to clarify the nature of the report. (Where a submission includes several related forms, or the reporting requirement has no title, the name of the project or a short descriptive phrase should be used.)

Item 5. "Families" of forms may be consolidated and submitted for approval under one S.F. 83. These include variations which differ somewhat from the basic form, such as a "long form" for large firms and a "short form" for small ones, or forms which vary slightly by industry, by State, etc. They also include forms used with the basic form for screening respondents or for follow-up with nonrespondents. Ordinarily forms of different types, or involving different types of respondents (see instructions, items 6 and 14a) should **not** be combined under one submission. However, an exception may be made when several forms constitute parts of a single-time data collection project.

When repetitive forms are combined in a single submission, all forms should be listed in the Supporting Statement, showing for each its title (or short description), the number of responses and the man-hour burden. When forms of different types or having different types of respondents are combined in a single-time data collection project the same information, together with type of form and respondent, must be shown.

Item 6. Application. Include claims and other request forms.

Program evaluation. Include surveys, forms or other documents to obtain data on program client characteristics or to determine effectiveness of program results.

Other management report. Include forms or documents used to collect data for other management purposes, such as financial management of a program, supply management, etc., regardless of whether the reports are used individually or in summarized form.

Statistical survey or report. Include those used in obtaining general purpose statistics, collected without primary reference to specific governmental needs.

Preliminary plan or contract. These are data collection plans included in contracts or project statements and submitted prior to development of forms or other instruments for the collection of data. See I.B. above.

Recordkeeping requirement. These are usually contained in regulations, manuals, etc.

Classify reporting requirements under one of the above categories.

Item 7. Self-explanatory.

Item 8. OMB may authorize use of **repetitive** forms for as long as five years if it is unlikely that changes will occur in their use of content. For **single-time** forms the time requested should be sufficient to complete the collection of data, including any follow-up of non-respondents.

Item 9. Check **"New"** if the form or document has never been submitted for clearance before. Check **"Revision"** if any substantive changes are being made in an approved form or document. Check **"Extension"** if no changes are being made or the changes are of a very minor nature, such as a change in dates or agency name. When a form or document for which OMB approval has expired is submitted, check **"Reinstatement"** and give the old OMB number and expiration date in item 7.

Item 10. Check **"Single time"** for forms which are non-repetitive, noncontinuing, or are used less frequently than annually; check **"On occasion"** for forms used if, as and when required (e.g., most application and registration forms). If frequency differs for different classes of respondents check **"Other"** and explain in Supporting Statement.

Item 11. Show the OMB approval number of any program-related forms or documents. Identify those to be replaced by the form for which clearance is being requested.

Item 12. Enter NA if the form or other document is not used in connection with a program listed in the Catalog.

Item 13a. Personal interview includes both visits and telephonic inquiries.

Item 13b. Self-explanatory.

Item 14a. Type of respondent

(1) **Individuals or households.** Covers individuals or households as such. Individuals who respond in their role as proprietors are covered by (2) or (3) below.

(2) **Private business firms.** Includes also most types of professionals in private practice.

(3) **Farms.** Includes also livestock ranches, fur farms, nurseries and timber tracts.

(4) **Government agencies.** Covers Federal, State and local agencies, whether engaged in "general government" functions or in activities also carried on privately (hospitals, public transit, water supply). Schools, colleges and universities and hospitals are to be reported as (4) where the public-private mix is not known. Include here individuals who respond in their capacity as government officials.

(5) Other. Includes non-profit, non-governmental organizations such as labor unions, most cooperatives, charitable organizations, professional associations, private and parochial educational institutions and hospitals. Doctors and dentists and medical and dental laboratories are also to be included here, as are labor arbitrators.

If a respondent group (other than schools and hospitals) falls into more than one of the above categories, classify it in the category which accounts for the largest man-hour reporting burden.

Item 14b. Self-explanatory.

Item 15a, b and c. May be omitted for application forms and panel surveys where respondents are rotated during the year. In the case of statistical surveys, enter in 15a the number to be contacted.

Item 15d. Estimate if the exact number is not known. For applications and other administrative forms estimate the number (exclusive of duplicate originals) to be used per year. For most other forms this entry will be the number of respondents (sub-item 15a) times the number of reports filed annually (sub-item 15c).

Item 15e. See Sec. III A-6, Instructions for Supporting Statement.

Item 16a. The category **"Required to obtain benefit,"** includes those applications and other forms which must be completed to obtain or continue a benefit or privilege.

Item 16b. If the nature and extent of confidentiality to be accorded individual returns is not clear from the form or transmittal letter, this should be explained in the Supporting Statement.

Item 17. "Agency" refers to a bureau or other major organizational unit within a department (except the Departmental Clearance Office), or to an independent board, commission, administration, etc. See Instructions for Supporting Statement, III A-5 below.

Part B – "Notice of Office of Management and Budget Action"

This part of the form will be completed by the Office of Management and Budget and returned to the office designated in Part A, item 1.

Items 1 and 2. OMB may authorize printing the notice of approval elsewhere than in the upper right-hand corner of the form where sufficient reason is shown.

Item 3. This form of approval is used for reporting and recordkeeping requirements.

Item 4. This form of approval is used for data collection plans in Federally-sponsored contracts or other agreements.

Item 5. A review is suspended when the responsibility for any further action rests with the submitting agency, and such action does not appear imminent. The review can be reopened by memorandum to the OMB clearance Office.

Item 6. Self-explanatory.

III. THE SUPPORTING STATEMENT

A. Supporting Statement for New Form or Reporting Requirement

As a minimum, the Supporting Statement must include detailed information, quantified where applicable, on each of the following topics. (When a topic is not applicable to the subject request, so state. If the information has already been provided for the review of the preliminary plan or contract a reference to the previous submission, with the citation, will be sufficient.)

1. Justification

(1) Give a full and detailed explanation of the circumstances which make the report form or information requirement necessary. Include identification of any legal or administrative requirements which necessitate such data collection. Where the form is used in an agency program, describe the program and indicate how this particular form fits in.

(2) Indicate how, by whom, and for what purpose the data would be used. In the case of general purpose statistical surveys, e.g., periodic censuses, a statement of the nature of the survey will be sufficient.

(3) Show specifically why any similar data already available in the subject field cannot be used for these purposes.

2. Description of survey plan. (May be omitted for application forms and recordkeeping requirements. For other types of submissions, enter NA for any items not applicable.)

(1) Give a quantified description of the potential respondent universe. Identify any available mailing lists or directory sources used (e.g., ABC Commercial Directory, XYZ Trade Association, list compiled and maintained by agency).

(2) Describe the survey design and sampling or other respondent selection method to be used, as well as any plans for a pretest and techniques for handling non-response.

(3) Give the name of the agency statistician or consulting statistician who reviewed and approved the statistical aspects of the survey design.

(4) If the survey is to be made or the returns processed under a Federally-sponsored contract or grant, it will be the responsibility of the sponsoring agency to obtain OMB clearance for all data collection forms or other documents. The sponsoring agency should also provide the following:

name of the contractor;

his role and responsibilities in relation to the entire project;

the arrangements made with the contractor regarding confidentiality of collected data, disposition of completed report forms, punch cards or tapes, etc.

3. Tabulation and publication plans (May be omitted for application forms, recordkeeping requirements, preliminary plans or contracts, and pretests)

(1) Indicate briefly the plans for publication, such as time, type and content.

(3) A summary of the tabulation plans should accompany the request for clearance or be described briefly in the Supporting Statement.

4. Time schedule for data collection and publication (May be omitted for application forms, recordkeeping requirements, preliminary plans or contracts and pretests)

(1) Indicate the planned time schedule for the entire project, including beginning and ending collection dates, and completion of report or publication dates.

(2) Indicate the expected elapsed time between the completion of data collection and issuance of first published results.

5. Consultations outside the agency

(1) Give names of persons outside of the sponsoring bureau, with whom material submitted was discussed, and indicate agencies, companies or other organizations which they represent. Summarize any major problems on which agreement could not be reached.

(2) Indicate the extent to which availability of records and reportability of data was learned from respondent groups.

(3) When project involves obtaining information from State or local governments, provide evidence of consultation with officials of such governments or an organization such as the Council of State Governments. **Such consultation is required.** (See Budget Circulars A-85 and A-95 on Federal assistance programs and A-90 on information systems.)

6. Estimation of respondent reporting burden (May be omitted for recordkeeping requirements and for preliminary plans or contracts)

(1) Explain the basis used in developing the figure shown in item 15e, "Estimated **average** number of man-hours required per response."

Unless directed to do so, agencies need not make special surveys to obtain information on which to base estimates of reporting burden. Informal consultation with a few respondents, particularly in instances in which selected respondents are consulted on other questions or problems in planning a report form or requirement, may be desirable. Estimates may also be based on experience with a pretest or related forms. In the case of forms to be completed by individuals or households, a trial with office staff is a possible device.

(2) In making this estimate be sure to allow for the time needed to gather and compile the data (if not already available) as well as clerical time needed to complete form.

(3) Where the reporting burden is expected to vary considerably because of differences in respondent size or complexity, please show the range of such estimated burden and explain the reasons for the variation, as well as estimating the average time per response.

7. Sensitive questions

Additional justification must be provided for surveys which include questions of a sensitive nature, such as sex behavior and attitudes, religious beliefs and other matters which are commonly considered private. This should include the reasons why the agency considers the questions necessary and the specific uses to be made of the data obtained. The explanation to be given respondents and any steps to be taken to secure their consent (except where response is mandatory) should be stated. Describe extent of confidentiality and protection provided against disclosure of information from individual returns, including arrangements for disposition of completed report forms.

8. Estimate of cost to Federal Government

(1) For statistical and program evaluation surveys and to the extent possible for preliminary plans or contracts, provide an estimate of total project costs, including costs of planning the survey and compiling the data. Include in the total the costs of pretests, printing forms, mailing list compilation and maintenance, mailing or enumeration, and editing, coding, tabulating, and publication of results. The estimated share of overhead cost should be included. If funds are transferred from another agency or agencies for this project, identify agency (agencies) and state amount.

(2) In the case of repetitive forms, the cost should be reported on an annual basis.

(3) Cost estimates need not be provided for application forms, other management reports, and recordkeeping requirements.

(4) For data collected primarily to serve administrative or management uses, but which also have a supplementary or "byproduct" statistical use, the estimated costs should include only the **incremental costs** attributable to such statistical supplementary activities as editing, coding, summarization, and publication of such administrative data for statistical purposes.

B. Updating Supplemental Supporting Statement for Extension or Revision of Existing Form or Other Document

Include in the supplemental statement any expansion, correction, or deletion of information given in the original supporting statement. Clearly identify each change and give the reasons for making the change. If a revision of an existing form or document is involved, clearly identify the changes to be made and state briefly the reasons.

C. Other Documents to be Submitted

(1) **Submit any related background documents**, such as preliminary research reports, pre-test results, "Special Analytical Studies" prepared to supplement the agency's PPB "Program Memorandum," etc., which will illustrate the purpose or origin of proposed survey or document.

(2) In the case of requests for extension, revision, or reinstatement of report forms or other documents previously assigned OMB clearance numbers, **submit a copy of typical examples of any publications or other summarized results** issued by your agency, based on information previously obtained on this form or reporting requirement.

* GPO: 1971 O—441-586

APPENDIX G
LETTER REQUEST

GENERAL
RESEARCH CORPORATION

7655 OLD SPRINGHOUSE ROAD
WESTGATE RESEARCH PARK
MCLEAN, VIRGINIA 22102
(703) 893-5900

September 28, 1979

Dear Mr. :

This confirms our telephone discussion on 27 September 1979 concerning the participation of in the pretest of a study we are conducting for the Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs & Logistics), Pentagon, Washington, D.C.

General Research Corporation (GRC) is supporting the pay comparability study efforts of the Department of Defense by identifying nonpecuniary benefits that may be worthy of consideration in the Federal pay comparability process. Specifically, this is a state-of-the-art study in which we are attempting to:

- Identify nonpecuniary factors (Enclosure 1) associated with positions in the private sector. The positions being studied are those that are comparable in the Federal and private sectors (Enclosure 2).

- Develop a methodology for estimating the monetary value of these nonpecuniary factors.

The official data collection phase of this study will require us to visit more than 25 businesses throughout the United States. We are now, however, initiating a pretest involving only 3-5 firms in the Washington-Baltimore metropolitan area. As a part of the pretest, permission is requested to visit during the week of 8 October 1979 to accomplish the following:

- Collect compensation information and employee demographics from records and management personnel pertaining to the positions in Enclosure 2.

- Randomly select incumbents of the positions in Enclosure 2 for observation and interview at their places of work as follows:

  -- Each employee will be visited by two GRC observers, each at a different time. Each GRC observer will spend approximately 90 minutes with the respondent during which: (1) the purpose of the visit will be explained, (2) confidentiality of all information obtained will be assured, (3) the employee will be observed in his/her normal work situation for 50 minutes, and (4) finally an interview requiring no more than 30 minutes will terminate the visit.

All information obtained from management personnel, company records, and employees during our visits will be treated as confidential. No information identifying or individuals will be seen by anyone other than the GRC project team members. Reports rendered and comparisons made will be by occupations and standard industrial classification (SIC) groups in order to maintain anonymity of data sources.

Your willingness to assist in this study effort is greatly appreciated. I will contact you or whomever you designate next week to coordinate the details of our visit, hopefully, during the week of 8 October 1979. If additional information is required concerning this request I would be most happy to provide it, to include meeting with anyone necessary. I can be contacted at (703) 893-5900, extension 435.

Sincerely,

Oscar J. Harrison
Project Manager

Enclosures (2)

ENCLOSURE 1

NONPECUNIARY FACTORS

Opportunity for advancement

Training for advancement (in-house and off-the job)

Job security

Sense of challenge

Self-development

Meaningful and worthwhile work

Work autonomy (ability to control hours and function independently, flexibility of work pace)

Hours of work (flexitime, shift work, etc.)

Adequate authority to do the job

Adequate resources

Working conditions

Nature of supervision

Relations with co-workers

Type of work

Recognition of work

ENCLOSURE 2

SURVEY PRETEST SAMPLE

Position	Respondents Per Firm
Accountant	3
Director of Personnel	1
Job Analyst	2
Secretary	3

The following positions may be substituted on a one-for-one basis if respondents in above positions are not available.

Position	Respondents Per Firm
Auditor	3
Engineering Technician	3
Computer Operator	3
File Clerk	3